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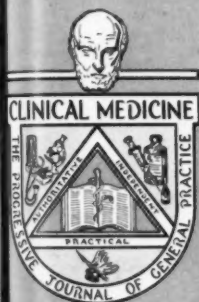
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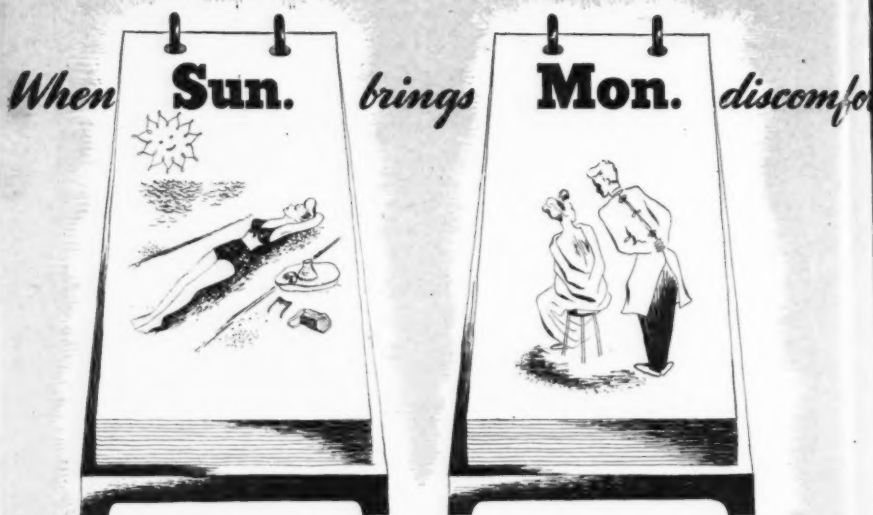


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VOLUME 51

NUMBER 6



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# CLINICAL MEDICINE

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NUMBER 6

## Illustrations on Old Age Diagnosis

By ALBERT MUELLER-DEHAM, M.D., *New York, N. Y.*

IN THE future, the clientele of every physician will include a growing number of aged patients, and in many cases they will form the backbone of his practice. They demand help and can only take full advantage of the medical service if interest, experience, and real help is offered to them.

An adequate diagnosis is the only safe basis of treatment. All competent observers of clinical medicine in old age agree in the opinion that, at this period of life, *diagnosis is more difficult and uncertain than at any other.* This was convincingly demonstrated in a statistical study by the author.<sup>1</sup> The clinical records and statements of 200 patients over 65 years from a large modern hospital where different independent medical services were compared with the results of their necropsies. The correlation between clinical and anatomical diagnoses cannot be called satisfactory when the standards of other age groups are called into consideration. This insufficiency is not due to individual shortcomings of the staff physicians in this, or any other hospital. The present state of medicine, as applied to senility, is responsible. The difficulties are partly intrinsic and insurmountable with the available means. For a long time geriatric diagnosis will not reach the level of precision attainable in younger years. On the other hand, there are many instances where education in the specific problems bears fruit. Many mistakes can be avoided with knowledge and experience when once the attention of the medical profession has been focussed on them.

The reasons for the evasiveness of a proper recognition of disease in senility have been analyzed (2,3). They were

found in "the absence or essential diminution of many symptoms and signs, in changed physiological and pathological standards, and in the multiplicity of various simultaneous affections—all of which require a different diagnostic approach and method of reasoning."

Every point of this preceding passage will be exemplified, following the invitation of the editor of this Journal to demonstrate the peculiarities of diagnosis in senility by practical illustrations.

### Case 1

*Absence of symptoms* in a severe disease of the chest characterizes the following case. A 73 year old white male was hospitalized after a stroke two years ago with a moderate left-sided hemiparesis. His blood pressure was elevated, heart enlarged, aorta widened, peripheral arteries hardened. The entrance diagnosis was: hypertensive and arteriosclerotic cardiovascular disease with a consequent cerebral accident. The patient was alert and in good condition. After a time, the resident observed that the patient stayed in bed more than formerly, and enquired the reason. No complaint except fatigue could be elicited.

The examination showed no alteration of the previous findings, blood count and temperature were normal. Then the attending physician was called in. He found a slight dullness at the right base. X-ray revealed some fluid in the pleural space and enlarged hilus structures, probably due to congestion. An exploratory tap was made, producing a serous, slightly opaque fluid with the characteristics of an exudate. The sediment contained numerous white blood cells, mainly lymphocytes and many

erythrocytes. The fluid was sterile; no Koch (tubercle) bacilli were found. The effusion increased; the patient became weaker and died. There was no previous history of tuberculosis or cough. During the whole illness, not the least bit of pain, fever, or cough was present, only a slight leucocytosis.

The diagnosis of a tuberculous pleurisy was made and confirmed by autopsy, which demonstrated a very extensive tuberculous pleuritis and active tuberculosis of the hilus glands. The total absence of pains and fever distinguishes the course of disease from that of a younger patient, but the usual clinical means suffice for recognition.

A further conclusion teaches one not to exclude tuberculosis on account of a negative history.

Let us assume that the puncture had not furthered a typical exudate, but a specimen which—as to specific gravity, protein content and negative Rivalta test—would have been considered a transudate by the laboratory experts. Most physicians would have excluded a pleurisy and assumed a circulatory damage with certainty. They would perhaps have wondered in the subsequent period why no other signs of cardiac decompensation developed, and why the digitalis and diuretics failed. They would have searched in vain for a local obstruction which could damage the circulation in the affected area. The expert geriatrician would probably not have been able to make the certain diagnosis of a pleuritis, but he would have at least kept this possibility open. Why? The apparent answer is found in the presence of so many red blood cells, which are usually absent in transudates, while a hemorrhagic character is thought to be more or less frequent in malignant or tuberculous effusions. But this answer is wrong. Erythrocytes in great numbers, even affecting the macroscopic aspect are often found in typical transudates, due to an increased vessel permeability in seniles. Not the red blood cells, but the extensive lymphocytic sediment would have been of weight. He would further have known that undoubted exudates, warranted by the clinical course and demonstrated by many necropsies, frequently have the physical and chemical characters of transudates in senility. The unreliability of the accepted moments of distinction between exudates and transudates exemplify the difference of standards between former life periods and old age.

#### Case 2

*Lack of any localizatory signs led to*

a wrong diagnosis in the case of an 84 year old white female. The patient, a well developed and nourished woman, had been in the hospital for a long time. She complained of weakness and poor memory. No past history available. The heart was enlarged with a systolic apical murmur; the blood pressure increased. Bilateral Babinski. Mild diabetes. On entering the hospital she showed a secondary anemia (Hemoglobin 66%; red blood cells 3,300,000; white blood cells 6,700).

On Nov. 14, '43 the patient complained of weakness, shortness of breath, and constipation. The temperature was 100, the abdomen distended, and showing a diffuse tenderness to pressure. A slight dullness over the right lower lobe with some crepitant rales was found. The resident made the preliminary diagnosis of a bronchopneumonia and ordered sulfadiazine treatment. An enema produced a considerable quantity of malodorous stool.

On the next day, the woman was drowsy, temperature 102, the dullness on the right side had increased to flatness, bronchial breathing was observed. The abdomen was still distended with tenderness in the right upper quadrant. High leucocytosis. Later in the day, I saw the patient. I found a seriously ill, dyspneic and tachycardiac senile with a slight distension of the abdomen. No pain, but a distinct reaction to pressure over the right upper quadrant with a corresponding muscular rigidity.

Over the chest, an intensive dullness of 3 fingers' breadth covering the right base was noted. The breathing was very low, but not of bronchial character; no rales. The findings in the chest could be interpreted in at least three different ways: (1) as a pleural effusion; (2) in consideration of the previous auscultatory report, by a pneumonia with subsequent obstruction of the bronchi and resulting pulmonary atelectasis, which would explain the disappearance of bronchial breathing; (3) by a highstanding diaphragm, due to an abdominal affection in view of the distension and muscular rigidity below. For this hypothesis the assumption of a cholecystitis was the obvious probability. I thought vaguely also of other possibilities in the upper abdominal region. The situation was unclear. A bedside X-ray, an eventual pleural tap was ordered.

Meanwhile a surgical consultation was called in, with the resulting opinion that, in all probability, no surgical abdominal condition was present.

The chest roentgenogram (Nov. 16) showed moderate pulmonary conges-

tion; an effusion in the right costoparenchymal sinus. No massive consolidation or infiltration. Patches of bronchopneumonia in both lower lobes. The patient was very weak, drowsy, with irregular pulse, no pains, distension of the abdomen less marked, no general abdominal rigidity, no vomiting, temperature 102.6. A pleural puncture produced 60 cc. of a brownish, cloudy fluid. On the next day the patient died.

There was no doubt about bronchopneumonia and pleurisy; the abdominal phenomena could be explained as reflexory. But, on the other hand, there was the possibility of a subdiaphragmatic inflammatory lesion, with the pleurisy as a secondary sequence. The eventuality of a cholecystitis was held open and mentioned.

The result of the necropsy was a surprise. Pneumonia and pleuritis was verified. But the main feature was a diffuse, acute peritonitis, starting from a perforated, purulent appendix, a possibility which had not been thought of. I cannot see any way in which this diagnosis could have been made, since there were no signs to indicate trouble in the lower right abdomen, or a general peritonitis.

It is a quite frequent, but always shocking, experience to find that the most severe diseases, such as acute cholelithiasis, stomach ulcers, appendicitis, peritonitis, etc. may take their course in senile cases without any localizing signs, or only with very slight intimations. It is impossible to overlook such affections in younger years. Yes, great difficulties may occur in differentiating between gallbladder, stomach, pancreas and kidney, also between appendix, ovaries and ureter. But no doubt exists that one of these affections is present. It is true that some cases in old age show the usual features. In other instances, again, all one can find is often only a slight tenderness, a minimal rigidity, which seems quite negligible to the inexperienced in geriatrics, and can only with great difficulty and uncertainty be evaluated by the expert.

### Case 3

**Standards change.** This has already been demonstrated by the example of exudates. A man of 74 years had a marked anemia of 2,600,000 RBC with a color index of 1.1 and leukopenia. Consequently, the diagnosis of Addison's disease seemed justified and liver injections were started. Success did not follow. When this treatment was substituted by the prescription of iron a complete recovery followed. It had been an iron deficiency anemia. Only a very

distinct increase of the color index over 1.15 can be used for the assumption of pernicious anemia. Old age shows a tendency to macrocytosis. Pernicious anemia is very frequent, but the blood picture is different. Nucleated red blood cells, normoblasts and megaloblasts, are very rare. Whoever makes his diagnosis dependent on their presence will err. The bone marrow shows all the signs of hyperactivity which are lacking in the peripheral blood.

An extensive rise of the blood sedimentation rate means much less in the aged. Not only is the normal standard higher, but also the deviations are exaggerated. A simple acute cystitis can produce changes comparable to a cancer or a progressive tuberculosis in younger years.

### Case 4

**Multiplicity of disease** is sometimes extreme and presents one of the greatest diagnostic obstacles. This is well demonstrated by the clinical and anatomical data of a hospital case which was not under my observation:

White male, 66 years old. Clinical diagnosis: *Arteriosclerotic heart disease. Bronchopneumonia.* (Causes of death). Encapsulated effusion (right pleura). Benign hypertrophy of prostate, cystitis. Thrombophlebitis of left iliac vein. Secondary anemia.

The anatomical findings were: gangrenous cystitis, pyelonephritis, focal embolic glomerulonephritis. Acute bacterial endocarditis and valvulitis (mitral, aortic and tricuspid valves). Confluent lobular pneumonia. Pulmonary edema. Pyothorax, left: hydrothorax, right. Thrombophlebitis of left iliac vein. Pulmonary tuberculosis. Myocardial fibrosis and hypertrophy. Coronary sclerosis. Congestion and periportal fibrosis of liver. Healed duodenal ulcers. Arteriosclerosis of kidney.

The conditions are those of an almost hopeless complication. At least five separate infectious processes are juxtaposed, some with several localizations: the old empyema, the cystopyelonephritis, a septic infection of the endocardium with focal nephritis, a recent, perhaps terminal, pneumonia; and an active, not very extensive pulmonary tuberculosis with circumscribed miliary spread. The thrombophlebitis is secondary, but secondary to which? The whole case was seen in a wrong perspective. The patient did not die of arteriosclerotic heart disease; he died of infections, and the bronchopneumonia was not the most important of them. But it is rather an

impossible task to find one's way in such a pathological jungle.

#### Multiple Diagnoses

It is not always as bad as that. But the probability of different simultaneous diseases in a senile case is always greater than that of one affection, responsible for all the signs and symptoms. With this knowledge one of the leading, time honored principles of diagnosis falls out, that of unification: the tendency to explain, if possible, all the phenomena as emanating from one source.

The task in senility is comparable to the solution of an equation with several unknowns.

#### Case 5

A white male of 68 years showed all the features of a liver cirrhosis. He had been a drinker. His color was yellowish, the liver and spleen were moderately enlarged, hard and irregular. There was considerable ascites. Liver tests demonstrated functional damage. The ascites could mainly be controlled by diet and mercupurine, but several abdominal punctures had to be performed during his prolonged stay in the hospital. At the time of his entrance an X-ray examination of the gastro-intestinal tract had been performed with no relevant findings. He never had real pains, occasionally abdominal discomfort. Suddenly tarry stools appeared. Nothing easier to explain: bleeding from oesophageal varicosities. The patient became weaker and lost appetite. No wonder, cirrhosis is a progressive disease. He died with a profuse bleeding, vomiting blood, and evacuating bloody stool. Transfusions were without success. Diagnosis: cirrhosis of the liver with subsequent hemorrhage from the oesophagus.

The cirrhosis was found in autopsy, but also a small stomach ulcer which had eroded an artery. A repetition of the gastro-intestinal radiological examination had been neglected because all the signs were so easily explainable. Diagnostic unification had led to error.

#### Case 6

A woman of 85 years was cachetic, showed a large irregular liver, blood was found in the acid-free stomach contents and in the stool. The x-ray findings of the stomach were inconclusive, but suspicious. Numerous leucocytes were present in the urine. The diagnosis assumed a stomach cancer with liver metastasis and a cystitis. Apart from the findings elsewhere, the necropsy disclosed four distinct groups of disease in the abdomen. The first proved to be

a small carcinoma of the ileum with metastases to the liver and mesentery; the second, multiple bleeding gastric ulcers; the third, cholelithiasis and cholecystitis; the fourth, hemorrhagic pyelocystitis and arteriosclerotic contracted kidneys.

The last findings deserve some remarks. The blood pressure of the patient had been normal. In senility this does not exclude the possibility of contracted kidneys, even to a marked degree. No diagnosis can be made with certainty in such cases, but the suspicion may be justified by careful study of the kidney function. The first case of this kind which I saw many years ago, had an impairment of consciousness, comatous breathing with a urinary smell, but a low blood pressure. The non-protein nitrogen was very high, and autopsy revealed a secondary contracted kidney with an extreme shrinkage.

#### Urinary Findings in the Aged

Much more important is the fact of the pyelonephritis in the above case. The patient had no urinary complaints, no pains or tenderness in the kidney region, no fever. But the absence of all these signs is typical in old age. In the statistical paper quoted, the mortality due to urinary infections revealed itself as surprisingly high (9.75%). The frequency of cystitis (24.5%), and pyelonephritis (19%) found in the 200 autopsies was extreme, but very inadequately expressed in the clinical diagnoses. Of the 38 cases of pyelonephritis only 6 had been recognized during life. In the remaining undiscovered affections the disease was 12 times of vital importance as the main or contributory cause of death.

The presence of numerous red and white bloodcells in the urine of seniles is a phenomenon of enormous frequency, generally neglected when no discomforts or additional signs are combined, but always relevant. Where the report is confirmed in the catheterized urine and the response to treatment is not prompt, a urological examination is indicated to establish the conditions of the pyelon.

Another type. The physician is called to a senile patient with high fever, even a chill. No other complaints, no findings, the general condition is good. Usually a grippe is assumed, especially if a few rales of a chronic bronchitis are heard. The diagnosis seems confirmed when, during the next days, the temperature becomes normal. But a glance at a freshly voided urine could have cleared the situation; it would



have been cloudy, revealed many leucocytes and perhaps erythrocytes. Such a patient will probably sooner or later die of this infection who could have been saved by adequate treatment.

Almost 10% of senile deaths were due to urinary infections in the 200 senile cases controlled by autopsy. Together with 21% of pneumonias and 10% of miscellaneous infections such as tuberculosis, gallbladder disease, etc. The infectious group sums up to 40.75% and equals cardiovascular disease (40%). These figures deviate essentially from those of the official mortality table in the age groups over 60 with more than 60% mortality from cardiovascular-renal affections and a recession of infections. But one has to remember that these figures are merely based on clinical diagnosis, which is so uncertain in senility. They are additionally distorted by the fact that only one of the several affections named in a death certificate finds its way into the ultimate survey. One has, further, to reckon with the tendency of many physicians to put the cardiac disease first in the many doubtful and complicated cases where several factors contributed to the exitus. No doubt, the author's material is much too small for definite figures, and is open to corrections. But the assumption that it implies a nearer approximation to reality than the current views is strengthened by the considerations above, and, also, by another fact. In

none of the statistics published by pathologists, e.g., L. Aschoff, which relate to seniles, the percentage of deaths ascribed to circulatory disease is larger than 40%.

### Conclusion

Such figures do not only demonstrate the unreliability of the present mortality figures in senility, but are also of the greatest practical significance. They imply that the early recognition and adequate treatment of infections is at least of equal importance for old age as the prevention of arteriosclerosis and hypertension, or the fight against cancer. This is a field where medical success is easily attainable. The diagnostic and therapeutic means are at hand, if the senile patient is examined and treated with proper attention, knowledge and experience, putting all the modern facilities to use in his behalf.

239 Central Park West.

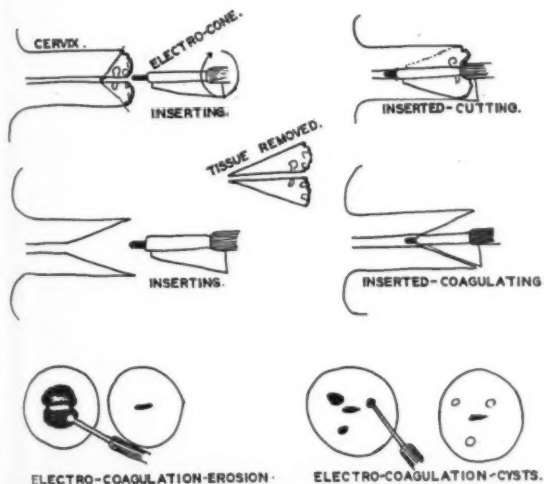
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## Electro-Cauterization of the Cervix

By

KARL JOHN KARNAKY  
Houston, Texas



# Summary of Outstanding Accomplishments of AAF Medical Services in 1943\*

By MAJOR GENERAL DAVID N. W. GRANT, *The Air Surgeon, Headquarters, Army Air Forces, Washington, D. C.*

1. Air evacuation was established as the method of choice for the quick, safe, and comfortable transportation of casualties from battle zones to base hospitals. In 1943, more than 161,000 patients were transported within theaters of operation aboard Troop Carrier Command airplanes under an air evacuation system supervised by Flight Surgeons and manned by Flight Nurses and staff sergeants. Including air evacuation of sick, wounded, and injured within theaters of operation, between theaters, from theaters to the United States, and within the United States, more than 173,000 patients were carried during 1943.† More than 3,200 patients were evacuated from overseas into the United States aboard Air Transport Command aircraft.

2. Approximately 2,500 medical officers were trained as flight surgeons at the AAF School of Aviation Medicine, Randolph Field, Texas, bringing to nearly 4,000 the total of specialists in aviation medicine on duty in the AAF. Meanwhile the School trained more than 1,700 unit oxygen and 300 personal equipment officers whose function is to supervise maintenance and use of oxygen, clothing, and air-sea rescue equipment in tactical units.

3. Approximately 275,000 aircrew members received the oxygen indoctrination course in low-pressure chambers operated by 46 High Altitude Training Units in the United States and in theaters of operations. Thus the necessity of rigid oxygen discipline for survival at high altitudes was brought home to every person before assignment to high-altitude missions.

4. The outstanding aero medical research development was the standardization of the demand type oxygen regulator and oxygen mask, and the incorporation of this automatic and economical system in the production of all AAF aircraft requiring oxygen equipment. As a further measure of safety in high-altitude combat flying, high-pressure

oxygen cylinders were replaced with a low-pressure type.

5. The AAF School of Air Evacuation, Bowman Field, Kentucky, was established to train Flight Surgeons, Flight Nurses, and enlisted men in air evacuation procedures. In addition, the School activates Medical Air Transport Squadrons for overseas duty. Five hundred Army Nurses were trained for flight duty during the year.

6. More than 690,000 physical examinations for flying were performed on aircrew trainees.

7. Psychological tests for the classification of candidates for pilot, bombardier, and navigator training were improved to a point where it is possible to predict that 78 percent of those scoring lowest on a 9-point scale will be washed out in primary pilot training compared to only 5 percent of the highest scorers. Advance elimination on the basis of predetermined flying aptitude of candidates scoring below average constitutes a tremendous saving in time, money, and manpower.

8. The Air Surgeon submitted requirements for the procurement of \$130,000,000 worth of medical supplies and equipment which was shipped to AAF tactical units in theaters of operations.

9. One of the greatest achievements in the field of AAF medical supply has been the reduction of the weight and bulk of scores of standard items so they could be adapted to air transportation. Examples include the aviation dental field chest reduced to 62 pounds in comparison with 128 for the Medical Department type; the air evacuation litter, reduced from 22½ to 14 pounds by substituting laminated wood for steel in the supports. Hundreds of thousands of dollars in air transportation costs have been saved in this manner.

10. Carrying out the Commanding General's concept of the AAF's responsibility to its men, The Air Surgeon established liaison with all Army Service Forces general hospitals so that the AAF may consult in the care of Air Corps patients and maintain control of their disposition.

11. More than 20,000,000 man hours of physical and military education were provided in the Convalescent Training Program originated by the AAF and

\*This article prepared for CLINICAL MEDICINE has been cleared for publication by the Review Branch, War Department Bureau of Public Relations.

†Do not confuse with actual battle casualties. In air evacuation service a patient may be transported more than one time.



established in 230 AAF station hospitals in the continental United States. The program, designed to utilize the otherwise wasted time of convalescence in physical reconditioning and useful military instruction, was extended from the pre-combat soldier to the physically or psychologically handicapped war veteran with the establishment of eight Convalescent Rehabilitation Centers. In these centers the responsibility of restoration to a useful military or civilian life is being carried out under the credo, "The debt of disability shall be paid in the currency of opportunity."

12. Plans were carried through to completion for the conversion of 74 AAF station hospitals in the United States into regional station hospitals specially staffed and equipped for definitive medical and surgical care and for consultation service to other AAF hospitals and dispensaries in the region. The plan, made imperative by a shortage of medical officers, was designed to achieve maximum utilization of a limited number of medical specialists in providing the best possible care for all members of the Air Corps wherever stationed. The

consultation service provides for delivery of the specialist to the patient or of the patient to the specialist as circumstance dictates, with priority being given to air transportation in either case.

13. In response to the need for a medium for the overseas and continental dissemination of current information on military aviation medicine, a monthly medical journal called "The Air Surgeon's Bulletin" was planned in keeping with the AAF's high standards of technical production and the first issue was published January, 1944.

14. Because of the thousands of man days lost due to rheumatic fever, streptococcal infections, and respiratory diseases, a preventive and control program was established at 40 large air bases with a total strength of 800,000 troops.

15. The venereal disease rate for the AAF in 1943 was 25 percent lower than in 1942, and the time lost from duty per case of venereal disease was reduced one-third. These results have been attained by the use of intensive control measures, specialized personnel, and improved medical care.

## Clinical Experiences With Penicillin\*

By DONALD G. ANDERSON, M.D.,† Boston, Massachusetts

This most complete summary on the newest, least toxic and most effective antibacterial agent yet developed should be of interest, because enough Penicillin is now being made so that civilians may obtain small amounts, under proper conditions.

THREE THOUSAND cases have now been treated with Penicillin and the collected data analyzed.

Penicillin is measured in terms of the Oxford or Florey unit: One Oxford unit is the amount of Penicillin in 50 cc. of meat extract broth that will inhibit the growth of a test strain of staphylococcus aureus.

Florey, in England, first discovered this agent when he noted that a contamination of mould appeared on some plates of staphylococcus. After several days, he observed that there was a zone around

the mould in which the staphylococci were not growing. Further investigation revealed that the mould (*Penicillium notatum*) excreted a fluid, Penicillin, which accounted for the bacteriostasis.

The intramuscular injection of Penicillin every 3 hours apparently gives as good results as the intravenous administration and is much less troublesome to the patient, nurse and physician. The steady intravenous drip may be the most efficient.

**Excretion:** Penicillin appears in the urine within 2 or 3 minutes after injection. At the end of the first hour, 58% has been excreted. If renal function is impaired, excretion is delayed and the content of Penicillin in the blood remains higher over a more prolonged period.

### Local Injection

**Distribution:** Penicillin does not go into the cerebrospinal fluid or into the serous sacs (pleural, pericardial, peritoneal, joint synovial cavities).

In the treatment of empyema, meningitis, joint infections, peritonitis or pericarditis, *Penicillin must be injected*

\*Abstracts by R.L.G. of a paper given before the Buffalo Academy of Medicine, April 12, 1944, at Buffalo, N.Y.

†Research Fellow in Medicine, Boston University School of Medicine.

locally. No harmful effects have been noted.

### Meningitis

The injection into cerebrospinal fluid of normal persons has resulted in stiff neck, headache, increase in white blood cells in the fluid and some increase of cerebrospinal fluid pressure. In the presence of meningitis, such symptoms do not appear after the intraspinal injection of Penicillin. Penicillin remains for a long time in cerebrospinal fluid; at the end of 20 hours, after one intraspinal injection, there is still an effective level in the fluid, so that such injections usually need be given only once in 24 hours.

### Empyema Cavities

Penicillin also lasts for a prolonged interval in empyema cavities. At the end of 22 hours, there remains almost  $\frac{1}{4}$  of 1 unit left per cc. (an effective level), so that such injections need be given only once daily.

In body cavities, the injection need be given only once or twice daily.

### Susceptible Organisms

(1) *Gonococcus*; (2) *Meningococcus*; (3) *Hemolytic streptococcus*; (4) *Pneumococcus*; (5) *Staphylococcus*; (6) *Streptococcus viridans*; (7) *Clostridium tetani*; (8) *Clostridium welchii*; (9) *C. diphtheria*; (10) *A. Bovis*.

Penicillin is most effective against the organisms first on this list, which is in order of increasing resistance, (it is most effective against gonococci, and slightly less so as one goes through the list).

Practically all these organisms are gram positive. It must be remembered that different strains of the same species vary in response to Penicillin therapy. This is especially true of streptococcus viridans.

### Organisms Not Susceptible

(1) *Enterococcus*; (2) *E. Coli*; (3) *B. typhosis*; (4) *B. paratyphosis*; (5) *B. dysenteriae*; (6) *H. influenzae*; (7) *H. pertussis*; (8) *W. cholerae*; (9) *B. proteus*; (10) *B. pyocyaneus*; (11) *Friedlander's bacillus*; (12) *Brucella undulant fever*; (13) virus infections.

Drug fastness of these infective agents has been shown both experimentally and clinically.

### The Effect of Penicillin

Penicillin is bacteriostatic, not bactericidal, as cultures may remain positive during therapy and relapses occur if Penicillin therapy is discontinued after the first sign of improvement or after the first negative culture is obtained.

The duration of the treatment and the patient's defense mechanism are important factors. Massive doses will not save moribund patients. Penicillin is not in-

Absorption, distribution, excretion	
Routes of Administration	Absorption
Orally	Inactivated by hydrochloric acid of the stomach; very little Penicillin is left after oral use
Rectally Duodenal	Poor absorption but has been successful in practice
Intravenous	A sharp rise in blood concentration follows, which then falls rapidly in 1½ hours and little is left
Intramuscular	The rise in amount of Penicillin in the blood is not so high or so fast but lasts longer (almost 3 hours) and the decline is more gradual
Subcutaneous	Poor absorption; very low blood content

hibited by those factors that inhibit sulfonamide action (tissue breakdown products, para-aminobenzoic acid).

**Method of Therapy:** Penicillin is best dissolved in normal saline solution, (5,000 units in each cc.), and an injection given every three hours, day and night, either intravenously or intramuscularly.

In very seriously ill patients, one may use the continuous intravenous drip of normal saline with Penicillin until improvement occurs (dose: 5 to 15 or 20,000 units per hour depending upon the circumstances).

The optimum dosage is not known except for a few diseases.

**Adults:** 15,000 units every 3 hours for almost all conditions. In fulminating infections, one may need larger doses for several days.

### Sulfa-resistant Gonorrhea

A total dose of 100,000 units given by intramuscular injections over a period of 12 to 15 hours is apparently the optimum dosage for treatment of sulfa-resistant gonorrhea.

**Gonorrheal arthritis** must be treated by injections of Penicillin directly into the joint cavity. A large parenteral dose may be only temporarily effective, yet 8,000 units injected into the joint each day may cause prompt disappearance of the organisms from the fluid.

### Pneumonia

Results of Penicillin therapy in one series of published cases show only a 6 percent mortality rate in a series of public hospital cases. A total dosage of

200 to 300,000 units, given over a period of 3 to 4 days, is advised.

**Pneumococcal meningitis:** 45 percent of cases recovered with Penicillin alone. There might have been a greater number of recoveries with the combined use of intensive sulfonamide therapy and Penicillin. Formerly, the mortality rate was a most 100 percent.

In one case, a cisternal puncture and cisternal injections of Penicillin were necessitated by the development of a subarachnoid block during the course of the meningitis.

**Pneumococcal bacterial endocarditis:** Several apparent cures have been reported, but most cases end fatally.

#### Subacute Bacterial Endocarditis

At first, the use of Penicillin in subacute bacterial endocarditis (streptococcus viridans) did not alter the uniformly fatal termination of such cases. Larger doses are now apparently giving some encouraging results.

#### Hemolytic Streptococcus Infections

The cases of hemolytic streptococcus infections are few in number and very diverse in character. Penicillin is apparently effective.

#### Gas Bacillus Infections

Experimentally, the results are very promising. In a few clinical cases, Penicillin therapy appears to have been the chief factor in recovery.

#### Early Syphilis

Dark field examinations in primary syphilis have become negative within 6 to 16 hours after Penicillin therapy was begun (Mahoney, United States Public Health Service, Marine Hospital, Staten Island, New York). The blood Wassermann tests became negative in 3 to 6 weeks, and there has been no relapse after 9 months of observation.

#### Staphylococcal Infections

Five hundred and fifty-four patients with staphylococcal bacteremia have been reported, of whom 71 percent recovered.

Therapy	Mortality Rate
Supportive	85-90 percent
Sulfonamides	60 percent
Penicillin	27 percent

Nine hundred and sixty-four serious staphylococcal infections without bacteremia have been collected, with recovery or improvement in 81 percent.

Penicillin is not effective if given too late, or in too small doses, if bacterial endocarditis is present, if secondary foci couldn't be reached or if other causes of death are present.

**Staphylococcal infections require prolonged, intensive treatment.**

Staphylococcal arthritis requires daily aspiration and injection of Penicillin. In several cases, recovery followed without surgical drainage of the joint.

**Staphylococcus arthritis or pneumonia** may require as much as 3,500,000 units. It must be remembered that the blood culture may remain positive several days after the onset of intensive therapy.

#### Chronic Osteomyelitis

Three-fourths of cases of chronic osteomyelitis are definitely benefited by Penicillin therapy, with a healing of the draining sinuses. In 6 to 8 months, there is often a relapse, however. If sequestra and sinuses can be excised, better results are obtained.

#### Toxic Reactions

Penicillin is practically non-toxic. No poisonous effects have been noted on the heart, kidneys or liver.

*It is not allergy inducing;* patients do not become sensitive to it.

Reactions have been reported as follows: Fever, chills and fever, thrombophlebitis, faintness, flushing of face, headache, diarrhea and urticaria.

#### Contraindications

There are no contraindications to the use of Penicillin.

An interesting feature of Penicillin therapy is the marked subjective and objective improvement in the patient before the fever begins to drop.

#### Discussion

Dr. Ernest Witebsky, Buffalo (bacteriologist): Florey was a bacteriologist, so perhaps a bacteriologist has some use. He was an unusual individual: moulds frequently contaminate bacterial growths and are thrown away by most bacteriologists; he had the inspiration to retain and observe the specimen.

Is Penicillin effective on anaerobic streptococci? Are blood levels needed for routine use?

It was formerly believed that only proteins would cause sensitivity. Now we know that almost any material will sensitize (cause an allergy). It is especially interesting that Penicillin apparently does not sensitize, although urticaria has been listed as one of the reactions following its use.

Answer by Dr. Anderson: Blood levels are not practical for routine use. Anaerobic streptococci vary in sensitivity. Results of Penicillin therapy vary from definite benefit to none at all.

*Virus pneumonia* does not respond, even to intensive therapy.

#### Surgical Prophylaxis

The use of Penicillin as a surgical prophylaxis hasn't been carried out as

yet, due to the small amount of the substance available. It should be very effective in clean orthopedic surgery and compound fractures.

(Dr. Anderson has been working with the group at Evans Memorial Hospital in Boston in the department of Clinical Research and Preventive Medicine which has been studying the effects of Penicillin administration for the government; Dr. Chester S. Keefer is the medical director of the government's commission to study this problem, and is the man to whom final judgment is given on the allocation of Penicillin.

Dr. Anderson has had an unique op-

portunity to learn at first hand, facts about Penicillin which are new. What he says will be of great practical value to every practicing physician as soon as the drug becomes commercially available.

It is difficult to appreciate the immense volumes of Penicillin now being manufactured. As one uses it, the names of producers never before heard of, are noted on the labels.

To see the abrupt improvement in a sulfa-resistant, pneumococcal pneumonia within a few hours after the injection of Penicillin is a rare clinical thrill.—ED)

The penicillin was provided by the Office of Scientific Research and Development from supplies assigned by the Committee on Medical Research for clinical investigations recommended by the Committee on Chemotherapeutic and other agents of the National Research Council. The studies on the absorption, distribution, and excretion of penicillin were made by Drs. Keefer and Rammelkamp.

## Addison's Disease—A Correction

To the Editor:

I am very much disturbed to find that my statements (at a Clinic given at the Inter-State Post-Graduate Medical Assembly, Oct. 23-26, 1943) have been seriously misquoted, in fact, so badly that if instructions as described were followed, patients with Addison's disease would certainly lose their lives. (See *CLIN. MED.*, Feb. 1944, p 36.)

These corrections should be made:

(1) No patient with Addison's disease should be given a low potassium diet when he is receiving desoxycorticosterone therapy, either by injection, sublingually or by pellet implantation.

(2) In emergencies, cortical adrenal extract is necessary. Doses of 5 cc. twice daily, as quoted in your article, are in my opinion, almost useless. Doses of 100 cc. per day are more likely to be required in cases of crisis. Sometimes doses of 150 cc. daily may be needed.

(3) The majority of cases of Addison's disease are caused by atrophy of the

adrenal cortices of unknown origin (as opposed to your statement that 50 percent of cases are due to tuberculosis, and 50 percent are probably due to atrophy, tumor, syphilis or other disturbance of the glands).

(4) Instead of reading, "To test, one should get details of excretion of water, sodium and urea," it should be, "In order to interpret the levels of blood urea and electrolytes properly, one must know the degree of hemoconcentration present."

I am quoted as saying that in women there is no decrease in steroid hormone in the urine. This is erroneous. Since the 17-ketosteroids in the urine arise almost entirely, if not entirely, from two sources, the testes and the adrenals, in women when the adrenal glands are destroyed, there is virtually no 17-ketosteroids in the urine.—E. PERRY MCCULLAGH, M.D., Section on Endocrinology and Metabolism, Cleveland Clinic, Cleveland, Ohio.

## COMING ARTICLES

Blood Pattern as a Clue to Diagnosis of Cancer . . . . .	H. L. Bolen
Recent Developments in Allergic Sinus Therapy . . . . .	E. E. Edmondson
Disabilities and Diversions . . . . .	M. E. Ormsby
Affections of the Urethra . . . . .	E. G. Ballenger
The G. P. Discovers T. B. . . . .	N. Mercer
The Vagohypotonic Individual . . . . .	D. G. Stine

# The Enlarged Heart

## (Symposium)

### Percussion of the Heart Borders

By HORACE M. KORN, M.D.\*

Iowa City, Iowa

*The enlarged heart is an abnormal heart.* This is an established fact. When confronted with a patient, how is one to determine if the heart is of normal size?

The ordinary practitioner can learn to ascertain the size of the heart very accurately. In the first place, the arbitrary distinction between "absolute" and "relative" cardiac dullness is irrelevant and immaterial. How much lung happens to overlap the heart has about as much to do with our ideas of cardiac size, as the color of the patient's eyes.

For an accurate result with percussion, the patient must always be sitting up and the immediate, or definitive method, must be used. The skin and subcutaneous tissues must be drawn taut, and the percussing finger should be kept in an intercostal space.

A penetrating, damping blow is struck with one finger and ordinarily, one should stay within the intercostal spaces. In percussing either border, the left hand is used only to draw the tissue taut. (see Fig. 1)

In the case of the left border, the tissues are retracted directly toward the head, so that when the border is found and the tissues are released, there will be no displacement to the right or left of the area of change in note. (see Fig. 2)

\*Internist, Department of Internal Medicine, University of Iowa, School of Medicine.



Fig. 1. The left hand is drawing the skin and subcutaneous tissues taut, while the middle finger of the right hand is percussing toward the right border of the heart.

Anything that raises the diaphragm places the heart in a more transverse position, so that percussion gives only a false impression of the extent of the transverse diameter. The only way to check on this is by observance of the inspiratory movement of the medial halves of the costal margins, and that is a subject in itself.

### Is the Heart Enlarged?

By RALPH L. GORRELL, M.D.

Buffalo, N. Y.

Enlargement of the heart constitutes indisputable evidence of cardiac disease. Before one assumes that an increase in cardiac width represents actual enlargement of the heart, one must remember these normal variations:

1. In childhood, the heart appears wider
2. Elevation of the diaphragm causes an increase in heart size
  - (a) Obesity, pregnancy, abdominal tumor
  - (b) Ascites, peritonitis or ileus
3. The short, stocky type of person normally has a wider heart than the slender one
4. A Mediastinal tumor may push the heart forward, thus increasing its apparent width

Percussion, as carried out by the ordinary practitioner, will reveal the area of cardiac dullness or flatness (absolute cardiac dullness). The significance of this finding varies with authors: Dressler feels that it is easily obtain-



Fig. 2. The left hand is drawing the tissues cephalward while the middle finger of the right hand is percussing in an intercostal space towards the left border of the heart.

able and of much significance; Elmer and Rose state that it has no clinical significance. The truth as usual, probably lies somewhere between.

Absolute cardiac dullness, as described by several authors, represents the area of the heart actually in contact with the chest wall, and is obtained by heavily percussing the heart outlines.

Relative cardiac dullness is an ap-

proximation of the true heart borders. It is learned by much lighter percussion. It cannot be determined if (a) obesity, (b) emphysema, (c) thoracic deformity or (d) cardiac displacement is present.

The apex beat, as located by inspection or palpation, gives valuable and indisputable evidence of the size of left ventricle.

## Observations on Iodine

By W. MITCHELL STEVENS, M.D., F.R.C.P.\*, England

In approaching the subject of preventing disease, it is essential to have a wide biological outlook combined with creative imagination and not to concentrate our attention unduly on individual diseases, but to visualize disease as a whole and consequently how to maintain real health from conception onwards.

Hippocrates (B. C. 460-377) was, of course, the first man who possessed a scientific outlook on medicine and postulated that "all disease is one disease" and his mind obviously visualized the prevention of disease in general.

Thomas Sydenham (1624-1689) was a devoted disciple of the immortal Hippocrates and was held in high esteem outside of his native country—his mind also visualized the prevention of disease and he affirmed that disease was due either to noxious environment or to errors in diet. In recent times many medical discoveries have been made, but none of these has been fundamental and none have invalidated the great conception of the two perfect medical thinkers of all time, but on the other hand facts have emerged which are of great significance. In 1895, Baumann demonstrated the presence of iodine in the thyroid gland and we know now that this element is essential to all vertebrate life and, moreover, that it is necessary to the efficient functioning of the endocrine system in general, the imbalance of which is reflected in the various manifestations of disease in general and, furthermore, a rational explanation becomes evident of the clinical value of minute quantities of iodine (as a food) in the prevention and treatment of disease.

\*Fellow of University College, London. Consulting Physician to the Cardiff Royal Infirmary and to the Royal Hamadryad Seaman's Hospital and other hospitals. Late lecturer in Materia Medica and Pharmacology in the University of Wales.

We know of course, that physical and mental characters or certain blemishes may be inherited and that the child may be infected in utero.

Professor Marbuis:—"A disease is not an entity, or a character, but a process—an abnormal process injurious to the organism, which is set going by a *causa externa* and runs its course in some part of the body. In the sense in which inherited is used in biology, there are no inherited diseases."

I am accustomed to state that all disease is of environmental origin, and that the cause is either positive or negative—by positive, one means infection (acute or chronic) or intoxication (toxin) and by negative, one means a deficiency in the intake (food). It follows that any disease which is certainly not positive must of necessity be one to its origin to "faulty food."

In recent years positive diseases have been tackled with much success and this success would be much more pronounced if simple means were taken to ensure that every individual were enabled to function continuously from conception onwards at his or her inherent optimal potential.

Definite malnutrition in which vitamins are useful should never be allowed to occur in any highly civilized community. Our great so-called constitutional or systemic diseases which are so common in our midst are all various manifestations of faulty food—a deficiency in our ordinary foods of a certain vital element—iodine. If such a condition be allowed to persist it requires no vivid imagination to visualize the ultimate result to man and his live stock in general.

The key disease is so-called simple goiter, which is in reality "pandemic" and the key element is: iodine. This idea may seem too simple to be true but in its simplicity lies its essential truth.

47 Plymouth Road, Penarth, Glam.





# GRADUATE COURSE

## Clinical Office Notes I (Miscellaneous)

### Bile Salts in Constipation

By ERMA A. SMITH, M.D., Ph.D.\*  
Ames, Iowa

Among factors which determine the bulk of the stool those which prevent desiccation play a large part. *Bile plays a role in controlling colon water similar to that exerted by blood proteins on tissue water*, that is, it exerts a pull for water. Six hundred to nine hundred c.c. of bile are secreted daily. If this bile exerts an osmotic pull on the water holding it in the colon then a reduction in the amount of bile would favor dehydration of the stool. Recent studies by Gauss (1) throw light on the relation of bile to constipation.

Patients who suffer with biliary or hepatic disease, in whom there is reason to believe there exists a decrease in the flow of bile, are generally constipated. Besides holding water in the colon, bile probably exerts a stimulating action on intestinal activity. Jaundiced patients are usually constipated and mild decreases in the amount of bile in lesser degrees of obstruction can thereby lead to lowered colon bulk and constipation. Lesser degrees of obstruction often precede total obstruction by years.

Biliary constipation may be expected in middle aged persons, more often women, of sedentary habits with organic or functional hepatic disease. Gall bladder dyspepsia and spastic colon characterize the picture.

Cauliflower, cabbage, radishes, cucumber, raw apples, peppers, fried and greasy foods usually cause abdominal distress, and anorexia and insomnia are common.

#### Treatment

Since the conception of biliary constipation is based on reduced bile flow, then whole bile or bile salts are indicated in treatment. Bile salts act as cholagogues and cholergics. The dose must be adjusted to the individual. Gauss recommends a safe initial dose (one capsule Desicol, Parke Davis, 3 times a day for example) to be increased

in amount according to the patient's tolerance. If too large a dose is given, it will induce diarrhoea and cramps. Reduce the dose, if this occurs. With the increased flow of bile the stools become bulkier and moist and the patient acquires a feeling of well being.

Additional treatment may include a bland diet ample in vitamin B or a normal diet with the irritating foods mentioned above removed.

#### Reference:

(1) Gauss, Harry. Biliary Constipation. *Am. J. Dig. Dis.* 10, 134, 1943.

### Clinical Experiments with Riboflavin, Inosital, and Calcium Pantothenate

By MARTIN G. VORHAUS, M.D.  
MICHAEL L. GOMPERTZ, M.D.  
and AARON FEDER, M.D.  
New York, New York

Few vitamins have been isolated, synthesized, and administered to animals. Although the reports of these studies seem confusing, they challenge the clinician to evaluate these substances in human deficiency states.

#### Riboflavin

The lesions of the skin and subcutaneous tissue in cheilitis (fissures at angles of lips) have a parallel in miniature to the tissue changes seen in decubital ulceration. Six cases were treated by the daily oral administration of 5 mgms. Five of these cases showed complete healing of the ulcers in from 7 to 34 days. One case died after 7 days, and at death the decubital ulceration was reduced in size and showed evidence of healing. In spite of the continued and progressive development of these lesions up to the day on which riboflavin was first given, improvement was noted within a few days. It is unlikely that the improvement in the local lesion could have been an expression of a generalized systemic improvement. On the contrary, the general condition of one case grew progressively worse and ended in death; another case had an inoperable carci-

\*Associate Professor of Physiology, Iowa State College.

noma of the sigmoid. Quite probably, the addition of the entire B complex to the riboflavin might have resulted in a more rapid improvement in our cases.

#### Inositol

Inositol has been identified as the mouse antialopecia (anti-baldness) factor, and studies on animals suggest that it stimulates intestinal peristalsis. We have followed 20 patients taking 1 to 2 Gm. of inositol daily. In not one of these cases was any change in bowel habits noted, even though many of them were constipated. No untoward effects were observed. In cases of alopecia, this dosage for several weeks has not produced significant hair growth. Inositol may have value in some skin diseases, such as generalized pruritic eruptions with thickening and desquamation.

#### Calcium Pantothenate

Pantothenic acid is one of the factors primarily responsible for the prevention of nutritional achromotrichia (lack of pigment in hair) in animals. Mice are able to synthesize inositol, if sufficiently high levels of pantothenic acid are fed, by means of intestinal micro-organisms and alopecia does not develop on an inositol-poor ration. We have given 100 mg. of pantothenic acid, in the form of calcium pantothenate, intramuscularly twice weekly to 3 patients for 6 weeks; no effect upon the gray hair present was noted. One case of alopecia areata showed some growth of dark hair.

1130 Park Avenue

### Sulfanilamide Neutralized by Damaged Tissue

By JOSEPH T. KING, M.D.\*  
Minneapolis, Minnesota

The presence of damaged tissue neutralizes the effect of sulfanilamide. In vitro, colonies of beta streptococci grow along the edge of tissue fragments even when the concentration of the drug is as high as 140 mgm. per cent.

Clinical experience also shows that devitalized tissue keeps the organisms alive and ready to proliferate as soon as the drug concentration falls.

References: King and Henschel, *Proc. Soc. Exp. Biol.*, 1938, 38, 812.

Jensen and Nelson, *S.G.O.*, 1942, 75, 34.

(This work is fundamental. It explains why sulfanilamide has so little bacteriostatic action when placed in a wound containing tissue fragments. Debridement including removal of all necrotic tissue down to healthy tissue, is essential if sulfanilamide is to be effective.—Ed.)

\*Department of Physiology, University of Minnesota.

### Hydrocephalus: Surgical Indications

By TRACY PUTNAM, M.D.  
Neurological Institute  
New York City

The general indications for operative treatment (cauterization of the choroid plexus) in cases of infantile hydrocephalus are (1) normal intelligence and (2) absence of sphincter paralysis. A subdural tap should be performed in practically all cases, to rule out a subdural hematoma.

The operative (hospital) mortality rate of coagulation of the choroid plexus through the glass ventriculoscope is about 5 percent.

About 75 percent of survivors maintain or improve their preoperative I.Q. (intelligence quotient).

710 W. 168th St.

### A Skin Test for Poliomyelitis

By E. C. ROSENOW, M.D.\*  
Rochester, Minnesota

The skin reaction for poliomyelitis is very specific, but well contacts and well persons in the midst of an epidemic zone may give a positive reaction.

#### Test

"The test consists of the intradermal injection of 0.03cc. of a 10 percent solution of the euglobulin fraction of the serum of horses that have been immunized to the streptococcus of poliomyelitis, and as controls the euglobulin fraction of the serum of horses immunized with streptococci from diseases other than poliomyelitis, and normal horse serum diluted 1:10.

"A blanched, sharply demarcated, white bleb about 5 mm. in diameter indicates that the correct amount has been injected into the proper layer of the skin. A diffusely raised region indicates that the injection has been made too deeply; it should be repeated."

"A positive reaction consists of erythema and edema which begin almost immediately after injection and reach a maximum in 5 to 10 minutes; then begin to disappear at the periphery and usually disappears entirely in 30 to 60 minutes." (*Proceedings of the Staff Meetings of the Mayo Clinic*, April 21, 1943).

The antistreptococcal serum used in treatment is not administered to persons whose skin tests are positive and who are free from symptoms suggestive of poliomyelitis.

Eli Lilly and Company have been good

\*The Mayo Foundation for Medical Education and Research.

enough to supply the skin test material. The poliomyelitis antistreptococcal serum for treatment is probably obtainable through the regular drug trade but it is not it can be obtained directly through Mr. W. A. Jamieson of the Lilly Research Laboratories, Indianapolis.

102-2nd Ave., S.W.

## Eyelid Eczema Due to Nail Polish

By FRANK A. SIMON, M.D.  
Louisville, Kentucky

The commonest cause of eczema of the eyelids in women today is the use of nail lacquer. The location of the lesions is explained by the fact that minute quantities of the lacquer "rub off" when the hands touch the face, eyes and other locations.

### Clinical Appearance

Redness, swelling, itching, and later desquamation, located chiefly on the eyelids, face, neck, ear canals, and occasionally on the arms and below the clavicle.

### The Patch Test

A piece of white blotter  $\frac{1}{4}$  inch square is placed in the center of a 1 inch square of adhesive tape. The nail lacquer is applied to the blotter and allowed to dry, the patch is then applied to the unbroken skin (preferably to the inner aspect of the upper arm) and allowed to remain 24 hours, then removed.

Readings should be made at the time of removal and also one and two days later. Positive test is indicated by redness, swelling, itching, and in some cases, vesicles, confined to the site of the blotter, not to the adhesive tape area (tape is irritating to some skins).

### Treatment

This procedure is simple and always satisfactory. The skin clears up completely in 7 to 10 days.

A soothing lotion is applied locally and nail lacquer is no longer used.

### Etiology

All shades, and even the colorless, nail lacquer contains a formaldehyde-sulphonamide resin. There is no non-allergic lacquer on the market now.

332 W. Broadway.

## Sulfadiazine for Sinusitis

By T. J. H. GORRELL, M.D.  
Chicago Heights, Illinois

I have found no mention in the literature of the use of sulfadiazine, in small doses, in the treatment of sinusitis.

The ear, nose, and throat specialist treats many patients with mild, recur-

rent sinusitis who do not have symptoms enough to warrant surgical attack on the sinuses. The thick, mucopurulent discharge is not only troublesome but causes lung complications; notably bronchitis and bronchiectasis.

**Dose:** Sulfadiazine is given three times daily for two days; one tablet of  $7\frac{1}{2}$  grains (0.5 gm.) being taken with each meal.

The discharge is reduced very markedly within 2 days.

Of course, other methods of conservative treatment are employed, including Proetz suction - displacement of the sinuses following shrinkage of the turbinates, the use of warm, moist air in the home of the patient and protection of the head from cold.

45—East 16th St.

## Primary Constipation

By DAVID C. DITMORE, M.D.

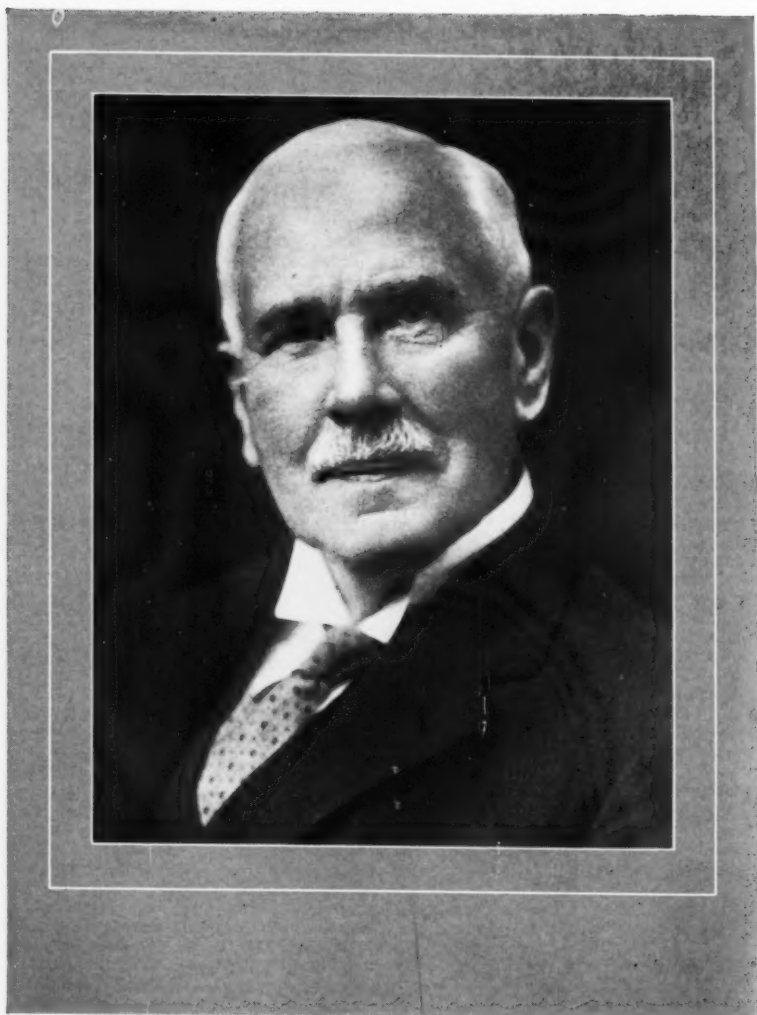
Boston, Massachusetts

Ditmore classifies constipation according to the presence or absence of pathology, and discusses a program of treatment for that type which is not caused by disease. He calls attention particularly to the roll which anal pathology plays in this condition, and cautions that a most painstaking history should be taken and careful examination performed before the diagnosis of primary constipation can be made.

Adequate fluid, adequate food, adequate salt, and chemotherapy, constitute the necessary armamentarium for treatment. He advises that up to one quart of water should be taken before breakfast, and two cooked vegetables included regularly in the noon and evening meals. Potatoes, tomatoes, vegetable soups, and salads cannot be counted among the required vegetables — although the patient is encouraged to eat these and any other food which is desired. Sodium chloride, one quarter teaspoonful in the first glass of water, is usually recommended. Mineral oil is prescribed to be taken before meals, preferably before breakfast. If leakage occurs, too much is being taken and the dosage is reduced. Harmful effects have not been noted and anyway, it is used only as an immediate remedy. Prompt and happy results are achieved in a very high percentage of cases when this program is followed. Poor results indicate an error in diagnosis.

7 Bay State Rd.

\*Author's abstract of article published in the *American Journal of Digestive Diseases*.



SIR W. ARBUTHNOT LANE

# Editorial

## Sir W. Arbuthnot Lane

A FEW men, in every generation and in all walks of life, are leaders; the mass of humanity follows.

Among the leaders, some merely keep ahead of the procession along paths which have been fairly accurately surveyed and mapped; while others turn aside from the wide highroad and hew for themselves paths which may lead to the heights of scientific progress or to the quaggy marshes of mistaken theories. In any case, they are the pioneers, and, not infrequently, exhibit the pioneering virtues of boldness amounting almost to hardihood, fixity of purpose, and combativeness.

William Arbuthnot Lane was born on July 4, 1856, his father (from whom must have come some of his pugnacity) being, at the time, a brigade surgeon in the army. His early education was obtained at Stanley House, Bridge of Allan.

In 1881, he received the baccalaureate degrees in Medicine and Surgery, together with the gold medal in anatomy and medicine, from the University of London. He was made a Fellow of the Royal College of Surgeons of England in 1882; received his Master's degree in Surgery in 1883; and married the succeeding year.

Mr. Lane, who like many prominent English surgeons, is not a Doctor of Medicine, had an alert and inquiring mind and few of the instincts of a follower, so he set out to achieve fame and fortune along several lines, and has greatly enriched the literature of his profession by a number of books and many papers on various phases of anatomy and surgery. He made a name for himself as a bone-surgeon and gave us the steel plates which, before the bone grafting era, were widely used in the operative treatment of fractures, and which bear his name. He also had helpful things to say regarding the repair of cleft palates and hare lips.

It is, however, in the field of the anatomy, physiology and pathology of the

intestinal canal that his international reputation was chiefly gained. Here his name is immortalized in such eponymic terms as Lane's Disease (chronic intestinal stasis), Lane's Kink (bending and twisting of the terminal six inches of the ileum, with adhesion of the folds) and Lane's Operation (ileosigmoidostomy, or short-circuiting of the colon).

Here he showed his originality, enthusiasm and the strength (not to say dogmatism) of his convictions; for Lane never had been of a Laodicean temperament. If an abnormal or sluggish colon was the cause of many human ills (as it undoubtedly is), it must be the basis of all (or nearly all) of them. In taking this attitude he ran afoul of the conservative "authorities," and the controversy often became spectacular and sometimes acrimonious.

In spite of the fact that many of his views have lacked a good deal of meeting with universal acceptance, the sheer power and vigor of the man have carried him far. He was knighted in 1913 and made a Companion of the Bath in 1917. He is also a Chevalier of the Legion of Honor, of France. His professional appointments include the positions of consulting surgeon to Guy's Hospital and the Hospital for Sick Children and Surgeon to the French Hospital, all of London. He was editor of *The Practitioner* for a year or two, beginning in 1924.

A few years ago Lane became convinced that many, if not all, of the colon troubles with which he had been struggling for years, were the result of the modern "denatured" diet of white flour and rice, and other unduly "purified" food stuffs and he set out to educate the public as to the disastrous effects of such eating. As he conducted the campaign under his own name and permitted his picture to be used, he aroused the horror of the fine, old, "rock-ribbed" British Medical Association, which excommunicated him (or permit-

ted him to resign) when he refused to cease his public activities along that line and organized and became President of the New Health Society, to promulgate his views.

Sir Arbuthnot Lane passed away, at the age of 86 years, on January 17, 1943.

*Religion is a frame of mind, not a set of opinions.*—PLATO.

### How to Lose Patients

ONCE, in an idle moment, I began to scribble out a little list of all the various things that one may do to lose patients. The list, no longer little, is this:

1. Let a patient start a course of treatment or be operated upon without definite plans made for payment (obstetrical patients are not lost in this way—they come back for more free deliveries).

2. Suggest frightening or unnecessary surgery.

3. Do not give relief as quickly as possible, or carry out some procedure which will cause the patient much pain after he goes home.

4. Do not keep happy and mentally balanced. Patients are often depressed and "blue" and a physician who lets himself be gruff or irritable makes them worse.

5. Forgetting to explain fully the length of time the patient will be sick or incapacitated, or suggesting that surgical treatment might be necessary later. Forgetting to mention the details of treatment the patient is supposed to follow at home.

6. Carrying out an incomplete examination; or occasionally, a too thorough one.

7. Giving the patient the idea that you are experimenting. The words "This might help you," and "Let's try this," are not recommended for building up confidence.

8. Making a wrong diagnosis. In this you need not carry the entire burden, as your colleagues will be only too happy to call it to your patient's or their relatives' attention.

9. Wrong handling mentally of patients. Have one set routine of carrying on practice and follow this with all persons and at all times.

10. Consultations — either you advise them before the patient wants them or after the patient has made up his mind

that you should have long ago asked for aid. In either case, his feelings are not kindly.

11. Not keeping bills posted promptly. This mental inertia helps in several ways: (a) the patients who do not want to pay feel that you really don't need the money or you would keep your bills up and (b) the honest patient hesitates to bother you to bring his account to date and (c) as bills do not go out regularly, his other first of the month accounts get first choice.

12. Using the "one call" system, which involves making one house call or office call and then forgetting all about the patient. The reverse of this is, of course, the daily call for two weeks on every patient with a mild cold.

13. Encouraging the "shoppers" who go from physician to physician trying to get each to underbid.

### How to Get Patients

Do the opposite.

The bigger a man's head gets, the easier it is to fill his shoes.

—*Kalends of the Waverly Press*

### Sulfonamides for Actinomycosis

ACTINOMYCOSIS, one of the most resistant and chronic infections with which we have to deal, may be cured by the sulfonamides. A rash of articles has broken out in various medical journals, the latest of which is an apparent cure of a case of one year's duration (Hollenbeck, W. F. and Turnoff, W.: *Actinomycosis Treated with Sulfadiazine*, *J.A.M.A.*, 123: 1115, Dec. 25, 1943). They write, "It was two weeks before any noticeable improvement occurred. In the ensuing weeks, the abscesses disappeared and the scars actually dissolved, leaving the skin practically in a normal condition. . . There had been progressive involvement of the skin for over a year until the sulfadiazine abruptly terminated the disease . . . The sulfonamides may remove secondarily invading bacteria, allowing natural defenses to combat the fungi more effectively . . . The patient received sulfadiazine for 4 months without any untoward effect on the kidneys, the blood or health in general (1 Gm. four times daily)."





# CLINICAL NOTES and ABSTRACTS

Microfilm copies of any of the published papers here abstracted, up to 25 pages, may be obtained for 25 cents from Microfilm Service, Army Medical Library, Washington, D.C.

## Bladder Symptoms

THERE is a general impression among both the members of our profession and also the laity, that frequency, urgency of urination, and dysuria point unquestionably to the urinary tract. So impressed are patients with the meaning of this group of symptoms, they frequently insist a bladder or kidney catarrh is present. Tell these patients that cystitis is a scapegoat; the trouble is elsewhere.

Think how for years women were treated for bladder disturbances. The most drastic form of cauterization was inflicted on the bladder neck. Most of this bladder trouble was really a continued reinfection of the urethra from an old cervicitis.

### Pyelocystitis and Procidentia

Mrs. K. L., a widow of ten years, is now at the age of 66. Her chief complaint is bladder trouble with leakage of urine. Marriage took place at 18, and between that and her menopause she has given birth to 15 children. Mrs. L. thinks she had some kidney trouble during one of the pregnancies, but it was cleared up with household remedies.

**Present illness:** The patient insists that for the past five years her kidneys have not been quite right. At times spots would appear before the eyes, followed by attacks of dizziness. There was also in evidence a dragging down sensation over the sacral area, where she insists the kidneys are located.

Abdominal examination revealed a very fatty and relaxed abdomen, with nothing definitely elicited except some pain on percussion over the sacral area. A glance at the vulva revealed a protruding mass which appeared to be practically all of the uterus. Much of the organ was markedly ulcerated and I could only figure that the procidentia was of long duration. The bladder and

rectum were quite in evidence alongside the exposed uterus. All of the external generative parts well wet from a constant dribbling of urine. The patient seemed unable to void and a catheter passed with great difficulty. The urine obtained was almost pure pus.

A pelvic examination revealed little more than was already apparent; namely, a chronic cystitis, associated with marked procidentia, rectocele and cystocele (Fig. 1).

Blood chemistry revealed a very high degree of nitrogen retention so that any surgical procedure was also ruled out. Attempts to replace the uterus likewise proved futile. It was suggested we do an intravenous pyelogram in order to

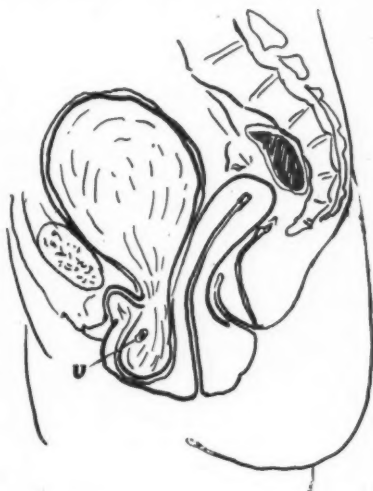


Fig. 1. Cystocele and Prolapse.

see the position of the ureters. This was refused.

**Treatment:** In view of what has been said, it appeared there was little we could do except to keep the patient comfortable. The ureters were undoubtedly kinked and the kidney function must be practically nil. Mrs. L. died about 48 hours after first seeing me in consultation with other physicians.

The cause of death in this instance was urinary suppression following prolonged interference with the flow of urine subsequent to uterine displacement.

Mrs. I. J., is white, aged 52, a native of Ireland.

**Chief complaint:** Difficulty in passing urine.

Always well up to age of 21, when she married. Children appeared at about one year intervals over the next five years. Some little time after the first maternity, she began to have what was called catarrh of the bladder. The malady just mentioned had become a little more intense following each delivery.

For the past six months, there has been a dribbling of urine. At times Mrs. J. thought it might be necessary to send for a doctor, on account of abdominal fullness. Always, however, after resting an hour or so, a slight gush of urine would occur and with it relief arrived. Lately there has appeared also a desire to urinate frequently at night. Thinks this annoyance occurs about half hourly. It will soon be apparent that this story does not go along hand-in-hand with the real facts.

**Physical examination:** The internists report heart and lungs and all parts aside from the genito-urinary system to be quite normal. When we arrive at the abdomen, nothing is palpable, although the wall is relaxed and easy to manipulate. For about two inches above the symphysis pubis, there seems to be a sensitive area extending well out to the rectus border on each side.

**The external genitalia:** The entire vulva is swollen. Between the labia there is considerable smegma. Projecting slightly from the vagina the cervix is seen and that organ presents considerable erosion in addition to being markedly swollen. Aside from the above, a marked cystocele and rectocele are plainly in view. A chronic urethritis associated with an old bilateral infection of Skene's glands is the first thing noted. After the patient succeeded in voiding three ounces of urine, a catheter was passed and ten ounces of residual fluid obtained. This fluid was strongly ammoniacal, alkaline and of a specific grav-

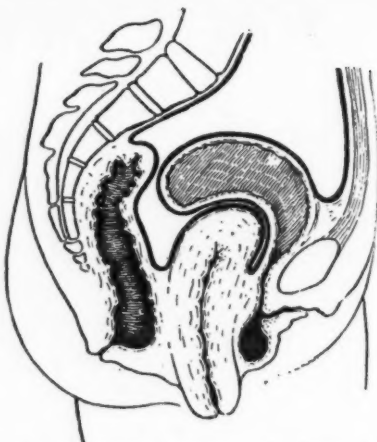


Fig. 2. Anterior prolapse with upper displacement of bladder.

ity 1030. A slight trace of albumin and much pus were found, microscopically. There were various types of urinary epithelium, a few hyaline and granular casts, along with many pus cells.

A bimanual vagino-abdominal examination was attempted, but caused so much pain we abandoned that procedure. Abdominorectal palpation was then carried out and a large sensitive mass detected above and behind the uterus; this was with the bladder apparently empty.

**Cystoscopic examination:** This we found quite difficult as our instrument insisted on going into a large pocket which was the cystocele. When that difficulty was overcome, the tube entered the bladder. The viscus on being washed clear was seen to be markedly hemorrhagic and to consist of an anterior and posterior section separated by a bar, undoubtedly the prolapsed uterus. We were unable to enter the uterus.

An intravenous pyelogram, despite the pathology so far noted, revealed nothing of importance, except that it showed good kidney function.

**Diagnosis:** It was the opinion of our staff after a careful consideration of all findings that we were dealing with a bladder dislocated upward and backward by a prolapsed uterus (Fig. 2).

**Treatment:** In many uterine displacements, just as in an old hernia, such a variety of changes have taken place in the original location of the organ, it is quite impossible to replace it. As such a condition seemed to be present here, a vaginal hysterectomy was felt to be the

most appropriate procedure. The operation quickly revealed we were dealing with marked distortion of our anatomical landmarks. Continuous bladder drainage was maintained for a week. While a complete cure was not effected, general conditions were so improved our patient is quite happy.

**Uterine Sepsis and Bladder Displacement** Mrs. W. L., white, aged 27.

**Chief complaint:** Abdominal pain and inability to void urine.

**Present illness:** This woman reported to her family physician complaining of bloody urine. His examination quickly elicited the fact that no blood appeared in the urine, but from the cervix. The doctor asked if there had been an abortion or miscarriage. Any suggestion of a possible pregnancy at any time was vigorously denied by the patient and her mother. This explanation was accepted.

One week later, I saw this woman in consultation largely because of a retention of urine and the physician's inability to catheterize her. Inspection showed that she is septic, her abdomen is distended and the lower half quite sensitive to the touch. No urine had been passed for the last 24 hours.

Vaginal examination revealed a bloody discharge, mixed with pus about the cervix. A bimanual examination gave one an impression the uterus pressed well back toward the sacrum. In front of the cervix was a wide, brawny area. Finger pressure behind the cervix gives the impression a similar condition exists there. An attempt at catheterization caused so much pain this procedure was given up.

We were in the presence of a marked pelvic cellulitis. Despite denials, the cause was apparent. An infection of the uterus had taken place, and from this an extension had progressed via the lymphatics into the pelvis. As a result, the uterus was displaced backward and the bladder pressed well up against the pubic bones (Fig. 3).

**Treatment:** The patient was taken to the operating room, where, under anesthesia, an incision was made just to the left side of the cervix. The opening was then extended laterally and anteriorly and a large amount of pus evacuated. This was followed by the insertion of a large T-shaped drainage tube into the parametrial area. Catheterization evacuated about 20 ounces of urine. No further urinary difficulties followed operation. Subsequent to operation, the patient's temperature fell to normal and remained there.

Three months later, Mrs. L. again

began to complain of frequent cramps and considerable vaginal discharge. Examination revealed a considerably enlarged uterus, with an apparent bilateral salpingitis.

**Treatment:** Operation was again advised. When the abdomen was opened, the above diagnosis appeared clear. As the ovaries were to all appearances uninvolved, they were left in place. Both pus tubes were ablated, along with the uterus, that primary source of disease. I have felt for a long time that it is folly to leave an old infected uterus when doing a salpingectomy. It is my experience when this organ is left, it frequently becomes an annoying retention cyst. Kelly states the retained uterus is always a source of danger; particularly in women over 40. It is also easier to remove such a uterus with its adnexa, than adherent tubes alone.

Mrs. A. V., aged 32, housewife. Native of Ireland.

**Chief complaint:** Urinary frequency, urgency, and dysuria.

Mrs. V. had no illness until married. Shortly after the marriage a slight vaginal discharge appeared. The gonococcus

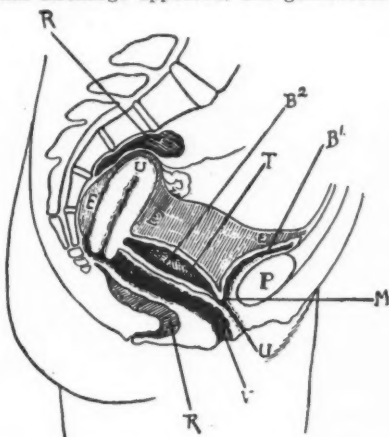


Fig. 3. Uterine sepsis and bladder displacement. Exudate represented by E.

and its worthy successors are the most common causative factors.

Mrs. V. has been married five years and up until about three months ago there had been no evidence of pregnancy. Since then, there has been no menstruation and the lady felt certain she was pregnant.

One week ago, Mrs. V. had a violent attack of pain in the lower right side of

the abdomen. The patient was also in considerable shock.

For the last 24 hours there has been great general abdominal distress, associated with urgency and frequency of urination along with dysuria.

The essentials of our examination were as follows: Our patient suggests an acute anemia. There is vague abdominal pain and constant bladder distress. Vaginally a wide doughy mass is found posterior to the uterus, and the cervix is the seat of a marked old infection. The bladder is pressed well up against the symphysis pubis. Certain definite facts were quickly established; to wit: a cervical infection and delayed impregnation, suggesting a salpingitis as the basis of an ectopic gestation (Fig. 4).

**Treatment:** Under ether and oxygen anesthesia, a midline incision was made from the symphysis pubis to the umbilicus. When the peritoneum was opened, the entire pelvis appeared to be filled



Fig. 4. Hematocoele in pelvis causing bladder pressure from uterus.

with a mass of coagulated blood. On examination of the adnexa, the left tube appeared normal, while the right was greatly swollen and exuded blood. Despite the fact a small foetus was found in the pelvis, a clot in the fimbriated end of the right Fallopian tube had checked much of the hemorrhage. As the right ovary appeared extensively diseased, a salpingo-oophorectomy was done and fairly rapid convalescence took place.

One reads in various text books on gynecology that it is often wise to wait. Wait for what? In every case of real extrauterine pregnancy of which I have

had cognizance over more than 40 years, any delays always resulted in death. Why wait for it?—W. S. PUGH, M.D., in *Med. World*, Dec., 1943.

### What Is Asthma?

In repeated bronchoscopic examinations of numerous patients, of all ages, suffering from intractable asthma, I have never observed bronchial spasm in the major bronchi. The constant finding of bronchial obstruction by mucosal edema with congestion has led me to reconsider the previously accepted theory that asthma was primarily due to a spasm of the circular fibers of the bronchial wall.—A. Q. PENTA, M.D. in *N.Y.S.J.M.*, May 15, 1943.

(If these observations are correct, our treatment of asthma may be modified by those measures which prevent edema, such as (1) low salt diet, (2) increased protein in the diet, or amino acids, orally or parenterally, and diuretics such as (3) ammonium chloride in 45 gr. doses for 3 days, followed by intravenous Salyrgan.—Ed.)

### Cold for Burns and Shock

Elman and associates carried out experimental studies on the influence of environmental temperatures on mortality in extensive burns. Rats under ether anesthesia were subjected to thermal trauma involving 75 per cent of the body. When they were kept at an environmental temperature of 75° F., the mortality was 25 to 32 per cent. When they were placed at 32° to 55° F. and at 99°, the mortality was 100 per cent. These findings indicate the deleterious influence of heat and cold on recovery from burns and show that 75° F. is the optimum temperature for recovery. Consequently, in the treatment of burns in humans, the usual application of a light cradle may be definitely dangerous. In summer and in a tropical climate air-conditioned rooms may save the lives of severely burned persons.

Similarly, the treatment of shock in humans must undergo a change in concept, in that the application of heat may be dangerous. The body attempts to conserve itself by general vasoconstriction, and the rectal temperature is frequently above 100° F. The addition of heat causes vasodilation, a fall in blood volume and tissue anoxia. Instead of the use of hot water bottles and many blankets, a decrease of temperature would seem to be preferred. All first

aid handbooks should be modified to take cognizance of the application of cooling. The physiologic principles of thermal stimuli ought to be made a part of all shock therapy.—M. K. NEWMAN, M.D., in *Arch. Physical Therapy*, July, 1943.

### Treatment of Wounds

Wounds should be treated by (1) excision of edges, (2) free incision into deep fascia to permit subsequent swelling of muscles without strangulation and local necrosis, (3) avoiding sutures in fascia, muscles, periosteum or other deep layers, (4) suturing only open wounds of brain; sucking wounds of chest; and penetrating wounds of joints, (5) laying gauze lightly on wound, (6) protecting skin with paraffin and applying plaster.

Skin sutures occlude the wound, prevent secondary infection and make a neater scar. Occlusion is obtained effectively and safely by plaster casts. Tension within a sutured wound causes decreased blood supply and spread of infection, which may result in amputation and possible death.—R. WATSON-JONES, F.R.C.S., *Lancet*, Feb. 6, 1943.

### Instrument Sterilizing Solutions

The least expensive solutions for sterilizing instruments can be made up by your druggist thus:

℞ Solution of Formaldehyde	554.0 cc.
Sodium borate	62.4 Gm.
Distilled water to make	1,000 cc.

(There is a disagreeable, penetrating odor.)

℞ Phenylmercuric Nitrate solution 1-12,500

This solution is effectively germicidal if the instruments are in contact for at least ten minutes. The drug is nontoxic in this concentration.

℞ Saponated Solution of Cresol 10% dilution may be used in sterilizing surgical instruments.

Cautions: Instruments must be cleaned before sterilizing, and allowed to remain at least ten minutes in the solution.—J. Am. Pharm. Assoc., Sept., 1943.

### Vitamin D for Arthritis

The use of large doses of a vitamin D (activated ergosterol—Ertron) has brought about improvement in the patient's general condition, decreased swelling and pain, and improved function of the joints.

**Dosage:** At least 150,000 units of Ertron\* must be given daily; in many cases, 200,000 to 300,000 units are re-

quired, and, in a few cases, 600,000 units daily.

Nausea, vomiting and frequency of urination are easily controlled by stopping the drug for four days, with subsequent reduction to the daily dose tolerated by that particular patient.—R. G. SNYDER, M.D., et al in *Industrial Med.*, May, 1943.

### Accident Do's and Don'ts

In case of an accident, the following simple rules should be borne in mind:

(1) Do not move patient from the scene of the accident until a temporary dressing and splint have been applied.

(2) If there is no evidence of head injury, give patient morphine hypodermically to relieve pain and lessen shock.

(3) If shock is severe, this should be treated before reduction is attempted.

(4) If the fracture is compounded, sprinkle sulfanilamide powder in the wound immediately, and administer tetanus and gas-gangrene serum as soon as possible.

(5) Do not attempt to reduce a fracture without the use of either a local or general anesthetic.

(6) The pain of a fractured rib will be relieved by injecting novocain in the vicinity of the fracture before moving the patient.

(7) Accomplish thorough debridement, clean the wound with soap and water and irrigate it with normal saline solution. It is not necessary to use caustic antiseptics and, indeed, it may retard healing through coagulation of the tissues. Excise the skin edges and discard the instruments used. If the ends of the bone fragments are grossly contaminated and impossible to clean, excise them with saw or bone forceps.

(8) In chest injuries, the nature of the injury should be determined, if possible, before moving the patient. The simple introduction of an aspirating needle, will give valuable information. If you have a pneumothorax, air will escape; while if you have a hemorrhage, blood will be aspirated. If the latter, the patient should be transported with the chest elevated. The cyanosis usually present in these cases is due to pressure by air or blood interfering with the return circulation. Aspiration will serve to relieve this pressure.

(9) In puncture wounds of the chest, plug the opening immediately with whatever cloth or gauze is available, to exclude outside air. Cloth or gauze covered with vaseline serves well for this purpose.

We are all familiar with the swelling

of the limb long after union of the bone has taken place. This swelling is largely due to atrophy of all of the tissues, including the blood vessels, which lessens the blood supply.—T. J. HUGHES, M.D., *Va. Med. Mon.*, April, 1943.

### Pneumonia in Infancy

Pneumonia may be caused by the escape of infected fluids from the upper respiratory tract. Anatomically, the respiratory passages of the infant are absolutely smaller than in older children and adults, thus adding to the problems of obstruction and elimination of infected exudate. In addition, the infant lung is physiologically immature, so that the mechanisms of elimination, such as cough and ciliary and muscular actions, are not fully developed.

#### Postural Drainage

Preventing infected exudate from passing the epiglottic barrier appears to be a vital factor in the prophylaxis of pneumonia, with gravity undoubtedly playing a large role. By elevating the foot of the infant's crib, much can be accomplished toward avoiding gravitation of infected exudate into the air passages.

Since the general direction of the trachea and primary bronchi is downward and backward, placing the infant on its abdomen with the foot of the crib elevated (See Fig. 1.) facilitates drainage of infected mucus and exudate in the upper respiratory passages out through the mouth and nose. Gray's textbook of anatomy shows that the backward slope of the trachea is 25 degrees or more from the vertical line of the ventral surface of the body. By elevation of the crib approximately 15 degrees, the angle of the trachea with the horizontal approximates 40 degrees.

I have found that infants suffering from respiratory infections are more comfortable on their abdomens as this position alone allows drainage of exudate from upper air passages by way of the nose and mouth. Elevation of the foot of the bed increases this drainage and seems to be well tolerated by the infant. The danger of choking on obstructing mucus is diminished as is the need for expelling this material by coughing. The mattress under the infant should be firm and flat, allowing free movement of the head to one side or the other. Robertson advised elevation of the foot of the bed for several hours postoperatively to get rid of material aspirated during operation and to prevent flow of more fluid into the lung. Dr. Clifford Sweet has emphasized the

importance of postural drainage in the treatment of respiratory infections. — J. M. ADAMS, M.D., *Journal Lancet*, May 1943.

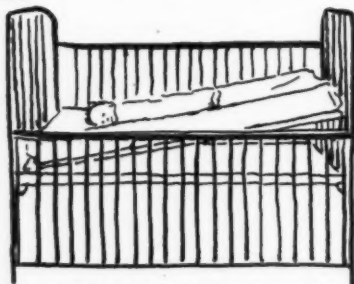


Fig. 1. Sketch of infant and crib showing postural drainage.

### Bladder Instillations of Cod Liver Oil for Cystitis

The instillation of 1 to 2 cc. of cod liver oil into the bladder is effective in clearing the urine and relieving discomfort in patients with infected residual urine. This local use of cod liver oil has also proved of value in cases of chronic cystitis, after transurethral fulguration, and in cases of incrustation of the bladder and urethra.

Such instillations are not used more than twice in 24 hours. For long continued use, a maximum dose is 2 ounces instilled twice weekly.

Cod liver oil is sterile and self-sterilizing, and does not need to be boiled before application. It is bactericidal, non-irritating to tissues, and protects young granulation tissue.—L. R. REYNOLDS, M.D. in *J. Urology*, Mar., 1943.

### Refinish Instruments Yourself

Rusty but still serviceable instruments of poor appearance can be refinished in a few minutes with aluminum paint (a small bottle can be obtained at any 10 cent store or hardware). They are spread out fanwise in a round pan and allowed to dry for about 6 hours before sterilization. Instruments so treated can be repeatedly sterilized, although they may feel somewhat sticky after the first sterilization, they will have a hard finish thereafter.

Dull or tarnished metal instruments can be made bright and shiny by putting them in concentrated hydrochloric acid for a few minutes, then washing and drying them—*South African Dent. Surv.*, July, 1943.



## Diagnosis and Home Treatment of Heart Disease

Myocardial failure is detected by:

1. A history of
  - a. *Dyspnea* (often with palpitation).
    - (1) normally there is shortness of breath on unusual exertion;
    - (2) asthma-like attacks on exertion, or at night;
    - (3) especially on exertion after meals or with patient lying down.
  - b. *Nocturia* due to inadequate renal function; *indigestion* due to congestion of the stomach and intestines; *dull upper abdominal pain* due to liver congestion (possibly slight jaundice associated); and *cough*, possibly *hemoptysis* due to pulmonary congestion.

### 2. Signs

- a. *Cardiac failure is not diagnosed from the heart but by finding evidences of congestion of other organs* (rales at one or both lung bases of a coarse, crackling nature; smooth, tender, enlarged liver; slight edema of ankles).
- b. Examination of the heart may indicate the type of heart disease.

### Treatment

1. Restrict activity below that which will produce symptoms; patient must rest 10 hours in bed at night and 1 or 2 hours during day; morphine should be used if the patient is orthopneic (don't give it by hypodermic injection—conceal it in a capsule), or use phenobarbital  $\frac{1}{2}$  gr. three times daily; *give digitalis until toxic symptoms appear*, in doses of 3 gr. every 4 hours or until nausea, anorexia, vomiting, increasing extrastokes or increasing heart block appears, and maintain digitalization by  $1\frac{1}{2}$  to 3 gr. daily.

2. Judge the patient's progress by frequent weighings; restrict salt for edema and give Salyrgan injections intravenously.—J. B. McLESTER, M.D. in *J.M.A. Alabama*, June, 1943.

## The Treatment of Sinusitis by Diet

One contribution to the literature on the treatment of sinusitis and chronic nasal discharge which has been overlooked is that by Jarvis.<sup>1</sup>

**Technic:** (1) The patient is told to omit all wheat bread, cereals and other wheat foods, for which he exchanges rye bread, cornmeal foods and oatmeal flour; (2) White sugar is not used, and honey is eaten in its place; (3) Apple juice and

grape juice are used instead of citric acid juices (orange, lemon, grapefruit); (4) Seafood, fish and liver are eaten instead of muscle meats; (5) Milk is taken regularly.

**Medication:** Insulin (plain) is given in 3 unit doses subcutaneously each time the patient is seen in the office. Three drops of Amend's iodine solution are taken in a glass of water 20 minutes before each meal.

**Results:** Pain disappears in a day or two, and with it the mucopurulent discharge. The patient remains on the diet for a period of several months and resumes it when an exacerbation occurs. The insulin is decreased to 3 units, once weekly, and the iodine solution is taken only once daily.

## The Small Intestines in Nutritional Disturbances

Certain nutritional deficiency states, in both early and late stages, are associated with disturbances in the motility and mucosal pattern of the small intestine recognizable by roentgen examination. When no obvious anatomical reason for their existence is apparent, they may be classified as primary; and when they are associated with some organic disease of the gastrointestinal tract, mesentery, liver or pancreas, they may be described as secondary.

The clinical as well as the pathological manifestations are variable. The symptoms are often obscure or misleading. They may complicate a condition requiring surgical treatment.

Pathological changes in the intestinal wall occur as a result of long continued nutritional deficiency, but seem to vary markedly in different individuals. There is strong evidence of damage to the intramural nervous system. The earlier changes are undoubtedly reversible, but if the condition persists long enough, the intestine may be permanently damaged.

The roentgenological findings in deficiency states involve motility, and the outline of the loops as well as the mucosal pattern of the small intestines.

Of the greatest importance is the fact that exactly the same type of intestinal pattern as that found with well advanced deficiency states, is present in normal newborn infants, which after three or four months is replaced by the usual adult pattern. This change is probably due to the evolution of the incompletely developed nervous control of the intestine.—FRANZ J. LUST, *American Journal of Digestive Diseases*, May, 1943.

<sup>1</sup> Jarvis, D. C.: Applied Biochemistry in the Treatment of Clinical Conditions of the Nasal Sinuses. *Laryngoscope* 43:186 (Mar.) 1939.



# DIAGNOSTIC POINTERS

## Sickly Children: Rheumatic Fever Or Syphilis

• Often one sees a child between the ages of 5 to 16 years who has lost weight, is pale, has poor appetite, painful swollen joints, leukopenia, secondary anemia, lassitude, and occasionally, notching of the permanent teeth.

Many of these children have a good background and the family moral character would appear to be above reproach. I have seen the diagnosis of rheumatic fever made frequently and the true diagnosis not become apparent until syphilitic eye infection (interstitial keratitis) appears and often some permanent eye injury is done.

The cornea becomes steamy and cloudy, there is severe pain, lacrymation, avoidance of light (photophobia) and visual disability for weeks.

Especially in the south, where rheumatic fever is uncommon, the possibility of lues should be considered and tests made.—H. C. NEBLETT, M.D., in *South Med. & S.*, Feb. 1944

## Anginal Pain Caused By Swallowing

• Eating itself, irrespective of the quantity or type of food, may result in anginal pains. Many patients complain of angina pectoris while swallowing the first mouthfuls, especially at breakfast. Simple distention of the stomach is known to cause diminished coronary circulation. Vagal reflexes from the esophagus and stomach affect the coronary arteries. (Cardiac patients should always eat small meals and at more frequent intervals.)—D. SCHERF, M.D., in *Rev. Gastroent.*, Jan., 1944.

## Thinning of Eyebrows

• Dry, coarse hair with thinning of the eyebrows may give away the diagnosis of hypothyroidism.—R. McCOMBS, M.D., in *Internal Medicine in General Practice* (W. B. Saunders Co.)

## Vitamin B

• Untoward effects may be produced by giving—mainly parentally—large doses of thiamine hydrochloride. The author records two cases in which long administration produced severe symptoms. In one of these, the patient developed a condition resembling anaphylactic shock, with an eosinophilia of almost 35 per cent. The other patient had symptoms resembling those produced by an overdosage of thyroid.—DR. LEITNER, in *Med. World*, Dec. 3, 1943

## Enlarged Heart

• The finding of an enlarged heart on examination is pathognomonic of heart disease.—R. McCOMBS, M.D., in *Internal Medicine in General Practice* (W. B. Saunders Co.). (It must not be forgotten that an enlarged heart may be curable, if due to hypothyroidism, hyperthyroidism or vitamin B<sub>1</sub> deficiency.—Ed.)

## Arthritis

• The most important clinical aid to the differential diagnosis of the various types of arthritis and non-articular rheumatism is the patellar sign which, when positive, indicates subpatellar erosion of cartilage. Crepitus can be felt when the patella is pressed down on to the condyles of the femur and pushed to and fro from side to side while the leg is held straight but relaxed. After some practice, the earliest indication of erosion is readily detected. Subpatellar erosion is rarely met with in uncomplicated non-articular rheumatism. It is present, however, in osteo-arthritis, active infective arthritis and all mixed forms, but it is absent in cases of rheumatoid.—H. WARREN CROWE, M.D., in *Med. World* (Lond.), Dec. 24, 1943.

## Chronic Conjunctivitis

• In cases of chronic conjunctivitis it is important to bear in mind that the source of the infection may be found to reside in the lacrimal sac with a constant drainage into the conjunctival sac, in which case the lacrimal apparatus should be cleaned out by means of irrigations or be dilated by probing if there should be constriction present.—J. M. McLEAN, M.D., in *Med. World* (Lon.), Dec. 3, 1943



# THUMBNAIL

## THERAPEUTICS

### Intensive Treatment of Falciparum Malaria

• In the presence of complications, such as coma, diarrhea or vomiting, cerebral symptoms (stupor or coma), pain in the chest and definite upper respiratory infections, one should give quinine dihydrochloride (0.6 Gm.) intravenously every 4 hours until it is evident that the patient is no longer critically ill.

Atabrine is then begun by injection of 0.4 Gm. intramuscularly which is repeated one or two times at 6 hour intervals. It is then given by mouth in 0.1 Gm. doses three times daily until 2.8 Gm. have been given in one week.—H. MELENEY, M.D., in *J. A. M. A.*, Jan. 8, 1944

### Minor Industrial Burns

• The following treatment is recommended in cases of minor burns occurring in industry:

1. Wash the area with white soap and water.
2. Do not break any blisters or otherwise interfere with the wound.
3. Cover with fine mesh gauze impregnated with vaseline or 5 per cent boric acid ointment.
4. Apply a firm dressing over this, bulky enough to keep dirt away from the injury, but not too large to keep the man off work.

The writers did not find that there is any evidence that the use of sulphonamides locally applied is of value in the prevention of infection.—DRS. McCURE and LAM, in *Med. World (Lond.)*, Dec. 17, 1943.

### Vitamin A for Color Blindness

• If color blind persons are given 50,000 units of vitamin A daily for 3 to 8 weeks, it is claimed that the individual will be able to pass the ordinary tests for color blindness.—I. H. JONES, M.D., in *Laryngoscope*, Dec. 1943

### Cough Mixture For Children

• An effective prescription for controlling cough in children is this:

Fluidextract of glycyrrhiza	120 cc.
Syrup of Ipecac	100 cc.
Camphorated tincture opium	120 cc.
Spirit of chloroform	20 cc.
Distilled water sufficient for	1,000 cc.

Sig.:  $\frac{1}{2}$  to 2 teaspoonfuls every 3 hours, for cough, according to age.

This mixture will control cough in laryngitis and bronchitis.—JOHN ZAHORSKY, M.D., in *Arch. Ped.*, Feb. 1943

### Gonorrheal Prostatitis

• Gonorrheal prostatitis and vesiculitis are best left alone to be cured by sulphonamides, concurrently with the urethritis. No form of syringing or the passage of sounds should be attempted. These are always injurious to the accompanying inflamed urethral mucous membrane. Irrigation of the urethra, in trained hands an effective treatment, is almost never necessary when sulphonamides are employed.—H. M. HENSCHELL, M.D., in *Med. World (Lond.)*, Dec. 24, 1943

### Cervical Ulcer and Chancre

• An innocent appearing ulcer of the cervix may become infected with spirochetes, thus becoming a chancre. An ordinary applicator stick, without cotton, is rubbed against the lesion until a drop of serum is obtained for dark-field examination.—JACK W. SHARP, M.D., in *Urol. & Cut. Rev.*, Mar. 1943.

### Hepatic Cirrhosis

• In the treatment of cirrhosis of the liver, glucose therapy is extremely valuable, although it is not always spectacular. It tends to control the ascites and to overcome the tendency of oliguria. Profuse diuresis is produced and the ascites gradually diminishes without the use of diuretics. The urine should be tested daily for sugar, and if glycosuria is noticed insulin therapy should be instituted. The writer gives daily intravenous injection of 50 gm. of glucose. Intramuscular liver extract injections are valuable.—A. D. JOSEPH, M.D., in *Med. World*, Dec. 24, 1943

# NEW BOOKS

Any book reviewed in these columns will be procured for our readers if the order, addressed to **CLINICAL MEDICINE**, Waukegan, Ill., is accompanied by a check for the published price of the book.

## A TEXTBOOK OF SURGERY

*Christopher*

A TEXTBOOK OF SURGERY BY AMERICAN AUTHORS. Edited by Frederick Christopher, M.D., F.A.C.S., Associate Professor of Surgery, Northwestern University Medical School, Chicago; Chief Surgeon, Evanston (Illinois) Hospital. 1,538 illustrations. Third Edition. Completely revised. Philadelphia and London: W. B. Saunders Company, 1943. Price \$10.00.

This book is made up of approximately 300 essays on various surgical topics by the foremost American authors. Some of these are almost classical, as Smith-Petersen's clear description of lower back pain causes and treatment (which requires only the addition of procaine injections to make it complete). Curtis' diseases of the lymphatic system, Meyerding's diseases and injuries of bursae, Shipley's osteomyelitis.

The authors are well selected and present their material well. The illustrations are profuse.

For those fields which it covers, this book is well recommended. These topics are discussed: Inflammation and repair of tissue (2) bacteriology of surgery (3), anthrax, fungus infections and tularemia (6), thermal, chemical, electric, irradiation injuries (8), the skin and subjacent tissues (8), war injuries, tendons (4), muscles and ligaments, bursae, vascular system (12), lymphatic system, endocrine system (5), nervous system and pain (18), orthopedics including painful back (12), amputations and prosthesis (2), bones (3), fractures (21), dislocations (6), head (11), neck (5), breast (5), thoracic wall and lungs (7), heart, mediastinum (5), abdominal wall (4), peritoneum, stomach and duodenum (7), intestine (7), rectum (9), liver and gall-bladder (5), pancreas, spleen, hernia (6), genitourinary tract (13), gynecology (13), plastic surgery (2), x-ray, aseptic surgical technique, minor surgical procedures, anesthesia (3) and preoperative and postoperative care (7). The figures indicate the number of articles concerning each topic.

The writers discuss practical points in diagnosis and treatment rather than classroom methods of presentation.

## THE MICROSCOPE AND ITS USE

*Muñoz and Charipper*

THE MICROSCOPE AND ITS USE. By Frank J. Muñoz, Technical Microscope Consultant; In Collaboration with Dr. Harry A. Charipper, Professor of Biology, New York University, Brooklyn, New York: The Chemical Publishing Company. 234 King Street. 1943. Price, \$2.50.

For the user of a microscope, be it in biological, chemical or industrial work, this small book will be helpful. It tells how to use and take care of a microscope. It answers most of the questions that arise in the employment of simple and specialized microscopes. The

instructions are practical and advice is given in clear simple language. Complicated theories of light and refraction are not given.

One chapter on the microtome is included and another on the three dimensional stereoscopic microscope. The latter is of value for examining those objects which do not need a large amount of magnification (up to 1,000 times) but are brought out better by examination which retains depth. Other chapters cover the subjects of the metallurgical microscope and the polarizing microscope. Accessories for use with microscope are discussed.

A full chapter is devoted to common mistakes and ways of correcting them so as to obtain most efficient use of the microscope. The microscopist is warned always to use a cover glass whenever employing high dry power, as the image appears cloudy if no cover glass is used.

## A SURGEON'S WORLD

*Thorek*

A SURGEON'S WORLD. An Autobiography of Maz Thorek, M.D., J. B. Lippincott Company, 1943. Price, \$3.75.

Dr. Thorek has written a very interesting book "A Surgeon's World," which will be of interest to the laity and the medical profession alike.

There is pathos and humor and the colorful background of his boyhood and young manhood, together with his romance which has remained forever young, will be enjoyed by every one.

There are many thoughtful chapters which a young doctor will find good reading and will find profit therein.

Every doctor needs a hobby to relieve the pressure of the immense drain which the practice of medicine takes in energy, sympathy and hard study. Relaxation will help solve problems often times, as the author has proved.

It is a book that will give one many pleasant minutes and fill one with ambitions which hard work will bring to fruition.—M.B.L.

## THE HEALTH OF CHILDREN IN OCCUPIED EUROPE

THE HEALTH OF CHILDREN IN OCCUPIED EUROPE: International Labor Office, Montreal, Canada, 1943. 25 cents. (May be ordered from I.L.O. 734 Jackson Place, Washington, D. C.)

This pamphlet summarizes what information it is possible to obtain concerning the children in occupied European countries; what type of food they are receiving, general living conditions, diet deficiencies, spread of disease, general deficiency, rise in death rate and psychological and social effects.

It is estimated that 40,000,000 children up to the age of 15 years are involved, and plans must be made to rebuild these orphans of the storm.

"In all the occupied countries except Denmark, there is an almost complete system of calorie rationing covering between 80 and 97 percent of the foods normally consumed before the war."

As one reads the various reports (which the Nazis allowed to be published) of scarcities or complete lack of many essential foods, especially milk and protein foods, one wonders whether it will be possible to supply all the adults and children starved, and whether their physical and mental health will be permanently undermined or broken.

## CLINICAL DIAGNOSIS BY LABORATORY EXAMINATION

Kolmer

**CLINICAL DIAGNOSIS BY LABORATORY EXAMINATION.** By John A. Kolmer, M.S., M.D., Dr. P. H., Sc. D., L. L. D., L.H.D.D., F.A.C.P., Professor of Medicine, Temple University School of Medicine; Formerly Professor of Pathology and Bacteriology, Graduate School of Medicine of the University of Pennsylvania. Illustrated. New York and London: D. Appleton-Century Company. 1943. Price, \$8.00.

There is here set forth the clinical interpretations of laboratory examinations and their practical applications in the diagnosis of disease, together with a brief section on laboratory technical methods for students and others who wish to have such material in one book.

The physician and surgeon who is not interested in laboratory technic must be responsible for the proper collection of specimens. Complete details are given so that the laboratory tests will have a reasonable chance of detecting abnormal findings.

The second section of the book discusses the laboratory findings of value in the diagnosis and treatment of diseases of the blood and hemopoietic system, kidneys and urinary tract, venereal diseases, gastrointestinal tract, cardiovascular and respiratory systems, metabolic diseases, vitamin deficiency diseases, endocrine gland diseases and infectious diseases.

The suggestions are good, except that they do not specify and emphasize which tests are of great diagnostic value and which are of little helpful value. Such simplification could enable the essential points in making a diagnosis to be grasped quickly and remembered better.

## THE COMPLEAT PEDIATRICIAN

Davison

**THE COMPLEAT PEDIATRICIAN; Practical Diagnostic, Therapeutic and Preventive Pediatrics.** By W. C. Davison, Professor of Pediatrics, Duke University School of Medicine; Formerly, Acting Pediatrician in Charge, The Johns Hopkins Hospital, Baltimore, and Acting Head of the Department of Pediatrics, etc. Durham, N. C.: Duke University Press. 1943. Price, \$3.75.

The author of this most unusual slim little volume writes, "The Compleat Pediatrician with its emphasis on symptoms and signs as clues, rather than on description, was compiled in the hope that it would be of value from a practical point of view. Physicians, when confronted with a child who has certain symptoms, cannot always obtain the necessary help in diagnosis from a systematic textbook, for often they are unable to interpret the patient's disease from his signs and consequently cannot locate the description of the correct disease."

"As a rule, a student or physician notices the patient's most obvious symptoms and recalls that they occur in a certain disease, but frequently he forgets that these same symptoms may be present in several diseases. An erroneous diagnosis is often the result." (An associate professor of medicine at a leading medical school when asked recently about what book of differential diagnosis he would recommend, answered complacently that he did not use any—evidently, he felt that his mind could carry a complete list of all possible diagnoses of each symptom and sign encountered.—Ed.)

An ingenious scheme permits the physician to find which disease conditions may cause each sign or symptom, an especially necessary method in pediatrics in which a very few symptoms may represent the baby's

response to divergent pathologic conditions. Briefly summarized tables give salient information needed in laboratory and x-ray diagnosis. (Why isn't the simple sulfosalicylic acid test for albumin, which requires only a few drops, given?)

"To diagnose a disease, it is necessary to think of it" is an old maxim. This book makes it easy.

## PERIPHERAL VASCULAR DISEASE

Samuels

**PERIPHERAL VASCULAR DISEASES (ANGIOLOGY).** By Saul S. Samuels, A.M., M.D., Consulting Vascular Surgeon, Long Beach Hospital, Long Beach, New York; Attending Vascular Surgeon, Brooklyn Hospital for the Aged; Chief, Department of Peripheral Arterial Diseases, Stuyvesant Polytechnic Hospital, New York; Chief, Peripheral Arterial Disease Clinic, Fourth Division, Bellevue Hospital, New York City, and so on, London, New York and Toronto: Oxford University Press. 1943. Price \$2.00.

This is one of a series of small handbooks each of which outlines one field, giving on each topic briefly (1) etiology, (2) pathology, (3) signs and symptoms, (4) medical treatment and (5) surgical treatment, if indicated.

This book presents outlines on anatomy of the blood vessels, anatomy of the autonomic nervous system, classification of peripheral vascular diseases together with signs and symptoms, arteriosclerosis obliterans, thromboangiitis obliterans, Raynaud's disease, erythromelalgia, acrocyanosis, frost-bite, glomus tumor, embolism, cervical rib, aneurysm of peripheral vessels, thrombophlebitis and lymphatic diseases of the extremities. Bibliographies are furnished at the end of each topic, for further reading.

The author is strongly prejudiced against sympathetic blocks and sympathectomies, despite the real advances that have been made in this field. Anyone who has carried out these techniques and has seen the increase in circulation in an extremity cannot but feel that the author is letting prejudice interfere with scientific practice.

Since the study of the last four years on cold therapy, one cannot agree with the author that part of the treatment of impending gangrene is the wrapping of the entire leg in cotton.

The author unreservedly condemns intermittent venous compression machines, suction-pressure machines and vasodilator drugs and proclaims the merits of intravenous injection of hypertonic saline solution, a procedure which he has advocated for years and which has never been substantiated by clear cut proof, either clinical or experimental.

The book may be recommended for its brief, to the point descriptions of the various vascular diseases and simple methods of treatment available everywhere.

## DOC'S WIFE

Lewis

**DOC'S WIFE.** By Faye Cashatt Lewis, M.D. New York: The Macmillan Company. 1941. Price \$2.00.

This is the story of practice in a small town in Iowa, written by the feminine half of the couple. She had graduated in medicine but did not practice, except in emergencies.

Her tales of rural practice are humorous, lifelike and interesting. The struggles with adaptation to social customs of the small town and to the exigencies of general practice are well portrayed.

Any doctor's wife will read it with pleasure (as will "Doc" himself). Any girl planning to marry a physician should read it before committing the fatal step.

The Health of Children in Occupied Europe

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